FISCAL YEAR 1985 DEPARTMENT OF ENERGY AUTHORIZATION

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY RESEARCH AND PRODUCTION

AND THE

SUBCOMMITTEE ON
ENERGY DEVELOPMENT AND APPLICATIONS

OF THE

COMMITTEE ON
SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

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FISCAL YEAR 1985 DEPARTMENT OF ENERGY AUTHORIZATION

TUESDAY, MARCH 13, 1984

House of Representatives, Committee on Science and Technology, Subcommittee on Energy Development and Applications, Subcommittee on Energy Research and Production,

Washington, D.C.

The subcommittees met, pursuant to notice, at 1:08 p.m., in room 2325, Rayburn House Office Building, Hon. Marilyn Lloyd (chairman of the Subcommittee on Energy Research and Production) presiding.

Present: Representatives Fuqua, Lloyd, Nelson, Sensenbrenner, Walker, Carney, and Schneider.

Staff present: Nancy Jeffery, Carolyn Greenfeld, Bill Harvey, and Dave Clement.

Mrs. Lloyd. the subcommittees will come to order.

Good afternoon, ladies and gentlemen. Today we will be receiving testimony from the Department of Energy on the fiscal year 1985 budget request for departmental administration. We will also receive testimony on the supporting services programs of in-house energy management, the technical information management program, plant engineering and design, policy and management and the recent management initiatives proposed by the administration. These activities provide general management and support services to all elements of the Department of Energy.

The management initiatives recently proposed by the Office of Management and Budget seek to reduce Government spending and curb waste and abuses within the Federal Government. As we understand it, the initiatives as recommended by the administration were based on several separate items which were consolidated to use as a base for the proposed initiatives. Two of these activities have been ongoing within the Federal Government for some time; implementation of, one, OMB circular A-76 which sets Federal guidelines for determining whether some Federal support services should be performed in-house or in the private sector, and, two, the uniform Federal procurement policy, which seeks to consolidate and set standards for U.S. Government procurement policy. Other activities, such as the review by the Grace Commission and reform 88, were instituted by the current administration and some of their recommendations were also included in the new Management Initiatives. It is our intent to determine how the implementation of these initiatives will affect those programs within our jurisdiction, and in particular, where funding for such implementation will be obtained.

Within the departmental administration program, we want to determine how a budget reduction of $77 million since fiscal year 1983 has affected these activities and where significant program changes have occurred as a result of the decline in funding. Within this account, it is anticipated that at least $6.375 million will be saved by implementing the management initiatives.

The operations offices, which are an integral part of R&D program implementation, are earmarked for a proposed savings of $1.919 million. Because these multipurpose field management offices provide contract monitoring and evaluation, and management and execution of headquarters-delegated programs, we want to assure that the proposed savings will not be redirected from operating funds needed to maintain an adequate funding level for these efforts.

We hope that achieving a clearer understanding of these new initiatives and the Department's plans for the implementation of them will assist us in our deliberations on the fiscal year 1985 authorization budget for the Department of Energy.

Our witness today is Martha O. Hesse, who is the Assistant Secretary for Management and Administration at the Department of Energy. We want to welcome you and we look forward to your testimony.

However, before we proceed, I would like to hear from the chairman of the Subcommittee on Energy Development and Applications, and also chairman of our full committee, Hon. Don Fuqua, to present his statement.

Mr. FUQUA. Thank you, Madam Chairman, and I just want to welcome our witness. I have a statement that I would like entered into the record.

Mrs. LLOYD. Without objection, it will be made a part of the record.

[The opening statement of Mr. Fuqua follows:]

OPENING STATEMENT OF HON. DON FUQUA

At this last hearing before we begin our mark-up sessions on the Department of Energy's FY 85 budget request, we will hear testimony on the Departmental Administration program, Supporting Services, and Management Initiatives proposed by the Administration.

Our witness this afternoon, Martha O. Hesse, Assistant Secretary for Management and Administration at the Department of Energy, has the major responsibility for coordinating and implementing management initiatives throughout the Department. These initiatives, which are based on previous studies, affect all aspects of program activities and management policies. Through her testimony today, we hope to gain a better understanding of these initiatives.

While we concur that ending wasteful government spending is a worthy goal which we all share, it is imperative that we assure that these important programs can continue at reasonable funding levels. It is our overriding concern that the substance and direction of these programs will not suffer through forced reductions in funding instituted on an arbitrary basis rather than on demonstrated savings.

Mrs. LLOYD. I would also like to ask if the ranking Republican members of the subcommittee want to make opening remarks at this time.

The gentleman from Pennsylvania, Mr. Walker?

Mr. WALKER. Thank you, Madam Chairman. I don't have a particular statement, but I'd want to join you in welcoming Assistant Secretary Hesse before us, and she comes before us at a time when I understand that the Grace Commission, Peter Grace just indicated that the Department of Energy from their viewpoint was the best managed department in the Federal Government. So they have to come before us with some feeling that that is a pretty high recommendation.

I think Mr. Winn would also probably want to submit a statement for the record, and I ask that he be able to do that.

Mrs. LLOYD. Without objection, Mr. Winn's statement will be made a part of the record.

[The opening statement of Mr. Winn follows:]

OPENING STATEMENT OF HON. LARRY WINN, JR.

Thank you, Mr. Chairman, for the opportunity to welcome our witnesses from the U.S. Department of Energy today. We will be receiving their testimony on the DOE Departmental Administration budget request for FY 1985. The statement which we have received from DOE prior to this hearing is very interesting, and I look forward to an informative session.

I was particularly attracted to the discussion on management initiatives. It appears that for at least nine administrative functions the Department of Energy has found ways in which to save direct expense and to operate with fewer personnel. We can only hope these savings have been accomplished without any deterimental effect on operating efficiency.

The appearance of these witnesses in very timely. In the March 12, 1984 issue of the Washington Post an article states that J. Peter Grace, whose Private Sector Survey on Cost Control was recently released, said in answer to a direct question that the Department of Energy is the best run agency in the federal government. So I use this opportunity to extend my congratulations to DOE for such an acknowledgement. It would seem reasonable to believe the economies promised here will enhance that reputation.

We are well aware that Congress has imposed personnel "floors" on certain programs in the Department of Energy. I believe that such an imposition is management by the Congress and I think it is improper. It is my intention to offer an amendment to the authorization bill which will eliminate these floors. This will, in effect, return management to DOE where it belongs.

Mr. Chairman, I appreciate this opportunity to make these remarks. We look forward to hearing from our witnesses.

Mrs. LLOYD. I must say, it might speak well for this committee, too, that this is the most efficiently run department. [General laughter.]

Please proceed, Ms. Hesse.

STATEMENT OF MARTHA O. HESSE, ASSISTANT SECRETARY, MANAGEMENT AND ADMINISTRATION, DEPARTMENT OF ENERGY

Ms. HESSE. Thank you. Mr. Chairman, Madam Chairman, members of the committee, I appreciate the opportunity to appear before you today in support of our 1985 budget request for the departmental administration appropriation, and I'd also like to discuss, as you mentioned, certain other accounts that are requested in the energy supply research and development appropriation. These include the Technical Information Services, in-house energy management program, and policy and management. These activities in total cover most of the managerial and support service activities in the Department.

At this time, with your permission, I would like to submit for the record my prepared statement and then briefly summarize the activities.

Mrs. LLOYD. Without objection, it will be made a part of the record; and before you proceed, I would ask unanimous consent that the subcommittee permit today's proceedings to be recorded and covered by the media and other persons.

Without objection, so ordered.

Please proceed, Ms. Hesse.

Ms. **Hesse**. As you are aware, the Secretary of Energy recently announced a realignment of certain programs and functional responsibilities within the Department. Two of those organizational realignments are affected by organizations in the departmental administration account. The energy emergencies and the emergency preparedness functions were transferred to the Assistant Secretary for International Affairs, and this particular function has been retitled the Assistant Secretary for International Affairs and Energy Emergencies.

Additionally, the Office of Policy, Planning and Analysis has been redesignated as the Assistant Secretary for Policy, Safety and Environment. Environmental policy and oversight, nuclear safety, and operational safety functions were transferred to form this new organization.

During the past year we have implemented a number of management improvements that have been aimed at increasing administrative and fiscal efficiency and effectiveness, and I'd like to mention just a few of them.

The first is that we began work on a departmentwide integrated accounting system, which we will begin implementing in a few months and which will be fully implemented during 1985. This system will result in eliminating a number of local accounting systems and will also, for the first time, provide compatible, standardized accounting information across the Department.

We have also implemented the personnel portion of an accounting system that we call the PAY/PERS system, and this system handles, as I said, the personnel portion and we are now adding the payroll portion. And this will consolidate 35 nationwide remote locations to handle on-line, direct entry, and retrieval of payroll information. This will involve not only greater efficiency and greater economies, but also reduced personnel requirement.

We have an internal control system, as required by the Financial Managers' Integrity Act, and I think that it's interesting to note that both OMB and GAO have noted the energy system as the model system for the Federal Government.

We have also initiated a Management by Objectives system to reduce overhead. And one of the MBO's for management and administration last year was to reduce overhead by ten percent throughout the Department, and also to reduce paperwork by 30 percent. I am pleased to note that we achieved both of those goals.

Well, the total fiscal year request for these activities is a net of about $183 million. Direct costs of $438 million are offset by almost $220 million in revenues, a $29 million deferral from previous years' unused funds, and $6 million in savings from the management initiatives program. About a third of this $438 million is for salaries and expenses, another third is for support services, and the last third is for cost of work for others.

The overall program level for these activities in 1985 is essentially the same as it is in 1984. I'd like to mention just a few changes.

Staffing level—the 1985 staffing request is about 3 percent less than 1984, and the majority of the reduction will come from management reforms.

The next has to do with the Inspector General. Good business practice dictates that we have strong financial audit coverage, and we have requested a total of more than $6 million in 1985 for the Inspector General to increase and expand financial audit coverage. This is an increase of about $5 million from 1984.

We have also requested $1 million each for policy and for international affairs for increased studies, and the in-house energy management account is $24 million to continue our conservation, energy conservation, of the energy facilities.

I'd like to spend just a moment on management initiatives. I'm certain that you all have a lot of questions that you want to ask about that, but I think I'd like to say that it's very easy to become complacent in management. I have been at the Department for a little more than a year, and I find myself becoming complacent with rules and regulations and paperwork. I am very concerned, and Secretary Hodel is also very concerned, about regulation. It seems to me that we regulate ourselves within the Federal Government probably more than we regulate the external world. I think that we need to do something about this, and I think that we can do something about it; we did last year. But I think with the Grace Commission recommendations, that this will give us added motivation, if you will, to go out and to review our rules and regulations, to reduce the burden that we place on our contractors; and I think that we will have not only lower costs, but we'll probably have happier employees as a result.

I would be happy to answer any questions that you have now.

[The prepared statement of Ms. Hesse follows:]

STATEMENT OF
MARTHA O. HESSE
ASSISTANT SECRETARY
MANAGEMENT AND ADMINISTRATION
BEFORE THE
SUBCOMMITTEE ON ENERGY DEVELOPMENT AND APPLICATIONS
and the
SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION
of the
HOUSE SCIENCE AND TECHNOLOGY COMMITTEE

March 13, 1984

Mr. Chairman, Madam Chairman, and Members of the Committee:

I am Martha O. Hesse, Assistant Secretary, Management and Administration, of the Department of Energy. I appreciate the opportunity to appear before you today in support of the FY 1985 budget request for the Departmental Administration Appropriation, and Technical Information Services, In-House Energy Management, and Policy and Management requested in the Energy Supply Research and Development Appropriation.

The total fiscal year 1985 request for these activities is $182.6 million. Direct costs of $437.4 million include $148.0 million for salary and related expenses, $134.3 million for support services, $24.0 million for In-House Energy Management, $15.4 million for Technical Information Services, and $115.7 for the Cost of Work for Others Program. These direct costs are offset by $219.4 million in revenues, a $29.0 million deferral from FY 1984, and $6.4 million of management savings to be realized from deobligations and initiatives begun in FY 1984. This request fully supports the goals and strategies as set forth in the National Energy Policy Plan.

I would now like to present a brief overview of the major activities in the two appropriations.

OFFICE OF THE SECRETARY

The request for the Office of the Secretary includes $1.6 million for salaries, related expenses and travel costs to support 31 full-time equivalents.

THE OFFICE OF GENERAL COUNSEL

The mission of the Office of General Counsel is to provide the legal services that are necessary for the Department to accomplish its missions. The legal services provided encompass the entire range of the Department's activities, with the exception of the Federal Energy Regulatory Commission, and they include legal counselling, legislative drafting, the development of regulations, and the conduct of litigation. In addition to the legal support services provided, this Office administers the Department's Standards of Conduct program and Patent program. The request for this Office is $12.0 million and 220 full-time equivalents and reflects $0.1 million in savings resulting from Management Reform Initiatives in the area of procurement reform.

INSPECTOR GENERAL

The responsibilities of the Inspector General are to detect and prevent fraud and abuse and to promote economy and efficiency in the programs and operations of DOE. These responsibilities relate to the work of about 17,000 employees directly employed by the Department, to about 124,000 people working for DOE contractors at Government-Owned, Contractor-Operated facilities, and to the activities of employees of many thousands of their contractors and grantees of the Department. The request for this Office is $21.7 million and 178 full-time equivalents and reflects $0.1 million in savings resulting from Management Reform Initiatives in the area of administrative organization management. The funding request is an increase of one third over FY 1984 and is primarily for contract audits.

MANAGEMENT AND ADMINISTRATION

Management and Administration (MA) provides the essential management and institutional systems and services necessary to support the Department's programs and missions. A major goal of Management and Administration continues to be the identification and elimination of waste and costly administrative overhead, while promoting increased efficiency and effectiveness in management, administrative and financial support systems and services. The FY 1985 request for Management and Administration includes funding for employee salaries, benefits and travel for the Procurement and Assistance Management Directorate, the Office of the Controller, and the Office of Administration. The request also includes support service costs for Headquarters employees. Of the $134.2 million requested in FY 1985, $44.9 million is for salaries and benefits for 1,110 full-time equivalents and $2.0 million for related travel. The support services request of $87.3 million provides for Headquarters space rental, supplies, transportation, communications, printing and security, and purchase of capital equipment. This budget request reflects $0.8 million in savings resulting from Management Reform Initiatives in the areas of administrative organization management, travel management and printing and publications.

CONGRESSIONAL, INTERGOVERNMENTAL AND PUBLIC AFFAIRS

The Office of Congressional, Intergovernmental and Public Affairs is responsible for developing, managing and ensuring communication of information to the Congress; news media; State, territorial, tribal and local government officials; other Federal agencies; consumer, business and citizen organizations; and the general public; and for promoting competition in the energy industry. The request for this Office is $4.2 million and 65 full-time equivalents and reflects $0.05 million in savings resulting from Management Reform Initiatives in the area of procurement reform.

OPERATIONS OFFICES

Five of the eight Operations Offices are multi-purpose and are therefore funded within Departmental Administration Appropriation. These five multi-purpose Operations Offices support research and development activities through contract administration and day-to-day management oversight of Government-Owned Contractor-Operated facilities; design, engineering and construction management; procurement; property and real estate management; contractor industrial relations; financial management; and management of related support services. The other three Operations Offices primarily support Defense Activities and are funded by the Atomic Energy Defense Appropriations. Of the $90.1 million requested in FY 1985, $63.7 million for salaries and benefits for 1,624 full-time equivalents; $2.1 million for travel expenses; and $24.3 million for space rental, utilities, supplies, transportation, communications, related support services and capital equipment. The FY 1985 request includes a savings of $1.9 million resulting from the Management Reform Initiatives in the areas of payroll and personnel, administrative organization management, procurement reform and travel management.

MINORITY ECONOMIC IMPACT

The responsibilities of the Office of Minority Economic Impact (MI) include advising the Secretary of Energy on the impact of National Energy policies, programs, and regulations on minorities. MI conducts an ongoing research program for economic analysis and policy impact assessments; provides management and technical assistance to minority educational institutions and minority business enterprises to increase their participation in energy activities; and provides direct loans to minority businesses for the development of proposals or bids to the Department. The request for this Office is $2.4 million and 11 full-time equivalents.

POLICY, PLANNING AND ANALYSIS

The Office of Policy, Planning, and Analysis (PPA) acts as a principal advisor to the Secretary for formulating and recommending national energy policy and carries out analyses of DOE programs to ensure that they contribute substantially to national energy policy. PPA oversees the analysis of policy issues, development of policy proposals, coordination of these initiatives within the Department and the Executive Branch, and the implementation of resulting policy decisions within Departmental programs. The Office concentrates upon strategic planning issues, analysis of potential policy options, and analytical efforts required for policy development. Other major PPA efforts on behalf of the Secretary include such cross cutting issues as the coordination and preparation of the biennial National Energy Policy Plan and the Department's long-range strategic planning process. PPA provides the Secretary with a strong analytical capability to address energy issues within a general policy framework. The request for this Office is $6.8 million and 50 full-time equivalents.

As you may be aware, the Safety and Environment programs were added to those of Policy, Planning and Analysis as of January 23, 1984, however, these programs are not requested under the appropriation account being addressed today.

INTERNATIONAL AFFAIRS

The basic goal of the Office of International Affairs is to support the U.S. Government in developing, implementing and evaluating U.S. international energy and nuclear nonproliferation programs and objectives. This is accomplished by assuming a leadership role in establishing and implementing international energy policy and programs throughout DOE; integrating domestic and international energy policies and programs; administering the Department's international nuclear program including policies on nuclear cooperation, non-proliferation exports, and developing, implementing and evaluating international cooperative arrangements. The request for this Office is $4.3 million and 55 full-time equivalents.

As you may be aware, the programs of the Deputy Assistant Secretary for Energy Emergencies were added to those of the Office of International Affairs as of January 23, 1984, however, these programs are not requested under the appropriation account being addressed today.

COST OF WORK FOR OTHERS AND MISCELLANEOUS REVENUES

Cost of Work for Others covers expenses for materials and services to non-Federal organizations when such products or services are not readily available from alternate sources. Examples of such products and services include special reactor materials, isotopes, and irradiation and test reactor services. The FY 1985 estimate is $115.7 million. The Department will receive an estimated $128.1 million in Miscellaneous Revenues as reimbursements for this work. Revenues estimated at $91.3 million are also earned from the sale of by-products, such as reactor steam and special nuclear materials.

IN-HOUSE ENERGY MANAGEMENT

The FY 1985 request for In-House Energy Management is $24.0 million. The requested amount reflects continuity in the approach toward energy conservation through quick payback retrofit construction projects. The funding level proposed will enable us to further approach the established retrofitting goals outlined in the National Energy Conservation Policy Act of 1978 (P.L. 95-619). The In-House Energy Management Program represents a continuing investment to improve the energy efficiency of DOE buildings, facilities and operations. The program of energy saving retrofits proposed in the FY 1985 budget has a payback period of 2.7 years with annual energy savings to the Department of 535,000 barrels of oil equivalent. Proposed funding also continues the program of conservation surveys to identify future retrofit projects; central plant studies to evaluate the economic feasibility of cogeneration of electricity and other central plant improvements; and model energy conservation programs such as a stream trap improvement program and a boiler operator training program. Continuation of the annual program of quick payback retrofit projects for the Department's facilities reduces outyear utility costs and provides a very high rate of return on investment dollars.

TECHNICAL INFORMATION MANAGEMENT PROGRAM

The Technical Information Management Program is a centralized scientific and technical information resources management function for the Department's program managers and contractors. The goals of the Technical Information Management Program are to contribute to DOE's mission in advancing energy and nuclear defense technologies, protect U.S. economic and military security through the effective control and use of scientific and technical energy information as a national and agency resource, and to enhance productivity of energy research and development. The program supports energy research and development by developing Departmentwide policy; conducting an oversight program; and collecting, managing, controlling and disseminating scientific, technical and engineering energy information. The FY 1985 budget request for the Technical Information Management Program is $15.4 million, which includes $14.6 million for operating expenses and $0.8 million for purchase of capital equipment. This request includes support for 172 full-time equivalents. This budget request reflects $0.3 million in savings resulting from Management Reform Initiatives in the area of printing and publications.

PLANT ENGINEERING AND DESIGN

The Department is not requesting separate funding in FY 1985 for Plant Engineering and Design. In previous years this program provided a separate source of funding to initiate advance Architect - Engineering services for proposed non-defense construction projects. Due to a change in policy, this activity will be funded by the appropriate programs beginning in FY 1985.

POLICY AND MANAGEMENT

This funding provides execution direction, management assistance and administrative support to all programs within energy supply activities, including Energy Research; Policy, Safety and Environment; Nuclear Energy; and Conservation and Renewable Energy. The FY 1985 request for these activities is $4.6 million and 67 full-time equivalents and reflects $0.8 million in savings resulting from Management Reform Initiatives in the areas of administrative organization management, administrative systems, and administrative processes/field structure.

That concludes my summary of programs. I will now address the specific issues you requested.

DEPARTMENTAL ADMINISTRATION

The major change in funding from FY 1983 for Departmental Administration is due mainly to the financing of the account and not to major decreases in program activity. Since FY 1983 the revenue estimate has increased by $40 million, the Department has deferred $29 million from FY 1983 unobligated balances to offset the FY 1985 program level and savings of $6 million will be realized from management initiatives. Therefore, the overall program level since FY 1983 has remained fairly constant and no significant program changes have occured due to funding limitations.

The FTE level from FY 1983 is being reduced by 228 FTE's which represents the Department's commitment to reduce administrative support to the lowest possible level consistent with program requirements.

OPERATIONS OFFICES

A table displaying the funding and manpower levels for each of the Operations Offices is provided herein.

IN-HOUSE ENERGY MANAGEMENT

Energy Management retrofit projects are competed Department-wide and selected on the basis of obtaining the highest return on investment for the Department. As required by the National Energy Conservation and Policy Act of 1978, the Department has, in consultation with other Federal agencies and the Office of Management and Budget, established specific criteria for the selection of all Federal energy management retrofit projects; i.e., maximizing life cycle savings to investment ratio. When the life cycle savings of a project do not equal the investment cost, a savings to investment ratio of less than one occurs and we do not consider the project for funding. In developing the level of funding for the Department we consider the existing backlog of projects, the economic return of these projects, and balance these factors against the Department's overall needs. Thus we do not have a specific minimum return on investment cutoff point.

TECHNICAL INFORMATION MANAGEMENT PROGRAM

The Department of Energy carries out many of the statutory requirements relating to scientific and technical information through a centralized technical information program which services the entire Department.

OPERATIONS OFFICES

	1983		1984		1985	
	Budget Authority	FTES	Budget Authority	FTES	Budget Authority	FTES
Chicago............	20,908	377	21,146	366	20,194	358
Idaho..............	13,051	205	12,600	223	12,852	221
Oak Ridge..........	26,380	512	26,313	520	25,825	514
Richland...........	16,014	276	16,594	273	14,840	261
San Francisco......	16,708	268	17,246	280	16,367	270
TOTAL	93,061	1,638	93,899	1,662	90,078	1,624

This program, referred to as the Technical Information Management Program, is organizationally located under the Assistant Secretary for Management and Administration is carried out by the Office of Scientific and Technical Information, and is geographically located at the Technical Information Center in Oak Ridge, Tennessee.

The Office of Scientific and Technical Information, in coordination with the programmatic Assistant Secretaries, develops, implements, and evaluates the effectiveness of the Department's scientific and technical information program. Certain statutes require DOE to broadly disseminate the results of DOE-funded research efforts (i.e., 42 U.S.C. 7112(5) (D) and 42 U.S.C. 7151(A)) in order to meet the objectives and purposes for which the laws were created, while other statutes require DOE to control and limit access to certain types of classified, sensitive, and limited information for national security purposes (i.e., 42 U.S.C. 7112(18) and P.L. 97-90, Section 148).

Results of all research funded by DOE, whether classified, limited, or unlimited, are deposited in the centralized system. That information which requires special controls or limitations is carefully controlled and made available only to authorized parties. Information which is unlimited is disseminated to DOE program managers and researchers in their area of responsibility by hard copy, fiche or on-line entry to data bases.

The results of all research are also deposited with National Technical Information System for availability by the public and U.S. industry.

DOE Order 1430.1 describes the Department's policies regarding the management of DOE's scientific and technical information. DOE is committed to controlling that information requiring special controls and limitations while at the same time assuring dissemination and availability of all uncontrolled, unlimited scientific and technical information.

PLANT ENGINEERING AND DESIGN

The Department has revised its policy concerning Title I and Title II design funding for candidate construction projects in that funding for these designs will be requested by the appropriate program. In previous years Title I and II design funding for candidate projects was not included in the respective program budget requests. Beginning in FY 1985, funding for Title I and Title II design will be requested by the appropriate program.

POLICY AND MANAGEMENT

The staffing in the Energy Supply and Development Appropriation for the Policy and Management accounts stays essentially level from FY 1984 to FY 1985:

		FTEs	
Organization	Total On-Board As of 3/1/84	FY 84 Request	FY 85 Request
Energy Research	21	8	8
Policy, Safety and Environment	25	22	20
Nuclear Energy	35	22	22
Conservation and Renewable Energy	21	16	17
	102	68	67

However, the funding level decreases considerably. The disparity in funding versus planned FTE usage results primarily from higher funding level requirements in Energy Research and Nuclear Energy in FY 1984 to fund current employment which is attriting during FY 1984.

The activities performed in FY 1985 in Policy and Management are essentially the same as those performed in FY 1983 and 1984, with minimized program oversight consistent with administration objectives.

The $100,000 of savings for Policy, Safety and Environment results from organizational improvements which permit a reduction of two staff years of effort.

Savings of $363,000 are projected for Nuclear Energy through achievements of two management initiatives as follows:

- improved planning and utilization of ADP resources, including deferral of acquisition ($300,000), and
- improved utilization of GOCO resources and capabilities through reduced DOE involvement in GOCO management ($63,000).

Savings of $356,000 are projected for Conservation and Renewable Energy through achievements in two management initiatives areas:

- Projected savings of $50,000 would be achieved through improved planning and organization design which should result in reduced overhead requirements, and
- A savings of $306,000 should result from improved utilization of GOCO contractors and reduced procedural and reporting requirements.

MANAGEMENT INITIATIVES

Our FY 1985 budget request reflects estimated savings of $47.5 million in budget authority and 120 full-time equivalent staff years for FY 1984 and $96 million and an additional 230 full-time equivalent staff years in FY 1985 resulting from the implementation of a series of management initiatives. These initiatives are designed to improve the efficiency and effectiveness of Departmental management systems, to take advantage of economies available through increased or improved utilization of private sector capabilities, and to place the Department's financial systems on a more business-like basis. Implementation of these initiatives will not only improve current Departmental operations, but will hold out the possibility of additional savings in future years.

These management initiatives reflect the first implementation efforts of the Department of Energy with regard to recommendations contained in various studies of Departmental operations, including the President's Private Sector Survey on Cost Control (the Grace Commission) and the Federal Laboratory Panel of the White House Science Council (the Packard Report), as well as the Administration's program for improved management systems known as Reform 88. The Assistant Secretary for Management and Administration is responsible for overall coordination of the Management Initiatives program with detailed implementation being directed by the individual staff offices with functional responsibility for the activities covered by each initiative.
The initiatives are grouped into nine specific categories:

ADMINISTRATIVE ORGANIZATION MANAGEMENT

This initiative reflects savings of $1.0 million in FY 1984 and $2.5 million in FY 1985 resulting from improved planning and control of organization structures within the Department of Energy. Elements of implementation of this initiative will include guidance to managers on improved organization planning and special reviews of existing and proposed organization structures focusing on supervisor to employee ratios, reduction in the number of levels of supervision, and overall staffing resource utilization. Savings are expected to be identified in all of the larger DOE organizations, both at Headquarters and in the field.

ADMINISTRATIVE SYSTEMS

This initiative reflects savings of $2.0 million in FY 1984 and $4.0 million in FY 1985 resulting from improvements in automatic data processing (ADP) utilization. These savings will be achieved through improved planning for acquisition and utilization of ADP systems, close monitoring of systems operations to insure maximum utilization of existing capacity, and consolidation of operations to allow for deferral of new systems acquisitions. These reductions will be available in those program areas making the most substantial use of ADP systems in the Department.

ADMINISTRATIVE PROCESS/FIELD STRUCTURE

This initiative reflects savings of $35.0 million in FY 1985 resulting from improved management of government owned, contractor operated (GOCO) facilities. This initiative involves improved utilization of private sector business practices by GOCO contractors through reduced procedural controls and heightened reliance on policy issuances and performance evaluation by the DOE Operations Offices. Cost initiatives for improved GOCO performance and reduction in reporting detail will lead to DOE management oversight at a higher level and to improved opportunities for innovation and implementation of new management processes by GOCO contractors. These savings will occur in Energy Research and the overhead activities of all eight DOE Operations Offices and major contractors.

PAYROLL/PERSONNEL

This initiative will save $0.3 million in FY 1985 through continued expansion of the DOE automated system PAY/PERS. This system integrates both payroll and personnel record systems and provides economies of scale as well as improved accuracy and timeliness. Continued expansion of the system to cover additional DOE organizations will result in staffing resources savings in both the personnel and payroll administration functional areas, and further savings are anticipated in future years. Savings will also result from application of more refined workload standards to personnel support functions.

PROCUREMENT REFORM

This initiative reflects savings of $10.5 million in FY 1984 and $18.5 million in FY 1985 through a number of actions designed to improve the utilization and administration of the procurement system. $10 million in FY 1984 and $15 million in FY 1985 are associated with increased use of contract audit support by the Department's Inspector General to expand audit coverage and increase recoveries. Expanded use of private sector contractors for accomplishment of commerical and industrial activities under OMB Circular A-76 account for $0.5 million in FY 1984 savings and $3.0 million in FY 1985. Adjustments to DOE patent policy to encourage nonprofit GOCO contractors to prosecute and administer patents stemming from the inventions resulting from their research are estimated to save $0.5 million in FY 1985. These savings are distributed throughout the programs and organizations of the Department.

CASH MANAGEMENT

This initiative reflects savings of $31.7 million in outlays in each of FY 1984 and FY 1985 based on improvements in billing and collecting receipts and in the disbursement of funds. These savings will occur due to increased use of electronic fund transfers for collection in the revenue producing elements of the Department, such as the Power Marketing Administrations, and for disbursements to contractors by the Operations Offices.

FINANCIAL SYSTEMS REFORMS

This initiative will save $34.0 million in FY 1984 and FY 1985 through improved management of the deobligation of multi-year funds. Deobligations may occur due to contract close-out, contractor defaults, or other instances of contractual dollar reductions. Under this initiative, such deobligations will be reported and evaluated to determine whether or not the funding should be retained in the program area where it was originally appropriated. If it is determined that there is no compelling reason to retain these funds in that program area, they will be deferred, if necessary (i.e., FY 1984 and previous years funding), and used to offset budget authority in FY 1985.

PRINTING/PUBLICATIONS

This initiative will save $1.1 million in FY 1985 through increased utilization of commercial facilities, rather than in-house plants to acquire needed printing and duplication services. Savings will occur in DOE Headquarters, the Bonneville Power Administration, the Albuquerque Operations Office and the Technical Information Center.

TRAVEL MANAGEMENT

This initiative provides for $0.6 million in savings for FY 1985 based on elimination of non-essential travel and the utilization of commercial travel arrangements rather than in-house staff. These reductions will be effected at Headquarters and at the Albuquerque, Chicago, and San Francisco Operations Offices.

Some actions have been taken to implement each of these initiatives and detailed plans are underway for further implementation actions. Some examples of implementation steps already taken include:

o issuance in February 1984 of instructions and procedures for the control and management of deobligations;

o beginning last fall the systematic collection and analysis of data on the total reporting burden levied on contractors - specific actions to eliminate or consolidate reports are now being proposed;

o establishment of pilot programs at two major contractors to test the achievement of socio-economic procurement goals without requiring specific procedures, plans, reports, etc;

o a detailed plan for the expansion of the PAY/PERS system is in place; and

o guidance was provided to all offices in February 1984 on planning programs for implementing OMB Circular A-76, by the end of March 1984 each element of the Department should have completed their A-76 plan through the next three years.

These initiatives will result in savings of 120 full-time equivalents in FY 1984, 11 in Headquarters and 109 in various field installations including the Power Marketing Administrations. In FY 1985 FTE savings are 48 in Headquarters and 302 in the field. The five Operations Offices funded in Departmental Administration will be affected as follows: Chicago 3 FTE's in FY 1984 and 9 in FY 1985; Idaho 3 in FY 1984 and 8 in FY 1985; Oak Ridge 3 in FY 1984 and 7 in FY 1985; Richland 3 in FY 1984 and 8 in FY 1985; and San Francisco 3 in FY 1984 and 11 in FY 1985.

Over the two years, 13 of the FTE's to be saved thru the Management Initiatives would be in organizations now subject to personnel "floors" by law (11 in Fossil Energy and 2 in EIA). The FY 1985 budget proposes language to repeal those statutory personnel floors since their existence unnecessarily constrains the ability to manage programs in the most efficient and effective manner. The budget submission also proposes appropriation language which would adjust the amount of new budget authority to compensate for the shortfall in the unlikely event that deobligations and/or IG audit savings do not occur as projected.

This concludes my prepared statement. I will be happy to respond to any questions you may have.

Mrs. **Lloyd**. Thank you very much, Ms. Hesse.

Mr. Fuqua?

Mr. **Fuqua**. I just have one question, and it's not so much a question as it is to compliment. I notice that for the Inspector General's Office, you have increased that approximately one-third over 1984, specifically for contract audits. And I wanted to mention that, as one who sponsored the original legislation back several years ago on the inspector generals, I think it saved us money in the long run and I'm glad to see the Department supporting it in good faith. I want to commend you for that.

Ms. **Hesse**. Thank you.

Mr. **Fuqua**. And particularly, I think you said we will have almost $100,000 savings resulting from some of the management reform initiatives; the Inspector General should be looked at as a savings rather than a cost to the taxpayer, particularly with the contract audits involved.

Ms. **Hesse**. Thank you.

If I could just make one remark, we have found in previous years that for every $1 that the Inspector General spent in contract audit, that we recovered $8. Now, of course, there is that theory of diminishing returns and we would not expect the 8-for-1 ratio to increase, but we would certainly expect 5-to-1.

Mr. **Fuqua**. That points out the value of the IG. Thank you.

Mrs. **Lloyd**. Thank you very much, Mr. Fuqua.

I do want to commend you for your efforts and also thank you on behalf of the community of Oak Ridge for your very fine job and the hard work that you've put in in finding a new contractor for us. All the applicants were very fine, they were all very deserving, and I don't think that anyone would wish to be in your place. It really demanded the wisdom of Solomon in the decisions that you did have to reach and your conclusions, but I want you to know that the Oak Ridge community is very happy with the decision that you made. We are very pleased.

Ms. **Hesse**. I appreciate that.

Mrs. **Lloyd**. As you know, we have some very severe environmental problems at Oak Ridge—mercury spills and so forth. I think we're going to have about an $800 million cleanup job in that area, and I was wondering how the reductions in this account and the operations offices would affect the environmental monitoring activities that must be going on there at the present time?

Ms. **Hesse**. Well, the savings, the reductions that we foresee in the Oak Ridge Operations Office come from managerial efficiencies and not from program efficiencies or reduced program levels. And in fact, the environmental monitoring account for Oak Ridge will see an increase over the next several years. For one thing, we have an additional $1 million in 1985 for phase I of an equipment purchase to increase the environmental monitoring, not only for the Oak Ridge National Labs, but for the Oak Ridge facilities. That will increase an additional $5 million in 1986 to continue that particular program.

Mrs. **Lloyd**. I just want an explanation of the enhanced auditing activities under the IG's program, whether or not they will interface the existing monitoring activities at our operations offices? Do we have duplication with the increased programs?

Ms. HESSE. Madam Chairman, several years ago the Department of Energy consolidated all of the financial audit activities into the Inspector General's Office, and therefore there are no financial auditors in the operations offices. So no, there is no duplication.

Mrs. LLOYD. What projects are included in the modifications for energy management at the various locations?

Ms. HESSE. There are about 35 projects between $50,000 and $1 million that have to do with retrofits for existing energy operations. There are a number of new projects that we will begin in 1985. We will complete a new distribution system project at Los Alamos; we will begin two facilities or two projects at Brookhaven National Lab. One is an electrical cogeneration facility, and the other is a project to store waste liquid fuels.

Mrs. LLOYD. Well, the fuel storage facility at Brookhaven has been under consideration for some time now. What is the total estimated cost of this project, Ms. Hesse? What has been accomplished with this program?

Ms. HESSE. The total cost is $2.7 million, and I believe that this is the first year that we will actually begin work on the project.

Mrs. LLOYD. So, there has been no really——

Ms. HESSE. There has been no work to date.

Mrs. LLOYD [continuing]. No work to date?

Ms. HESSE. It's been under consideration for a number of years, but 1985 will be the first year that we will begin work on the project, I believe in the third quarter of 1985.

Mrs. LLOYD. I was wondering about the steam generator testing at the ETEC in California, Energy Technology Engineering Center. Since we've had the termination of CRBR and the doubtful near-term future of any large breeder plant, I was wondering just what testing will be conducted at that site?

Ms. HESSE. We intend to continue testing at the Sodium Components Test Installation at the Energy Technology Engineering Center in California, and in the near term we plan to test both the Babcock and Wilcox steam generator and the Westinghouse steam generator. We plan to continue these tests until 1990, and we plan to use the tests for data to extrapolate up to a larger breeder plant and also down to a smaller plant.

Mrs. LLOYD. Would you explain to us why you believe that it is really preferable to cap the deobligations and return it immediately to the Treasury, rather than allowing the money to stay in the programs for which they were appropriated? I'm rather concerned about the deobligations.

Ms. HESSE. Well, I think that—take for example a $100,000 project, when we budget and obligate $100,000 for a project. The actual cost to complete that project is $90,000; we then have $10,000 that remains that is unused. I think that it makes sense for these moneys to be returned to a central location, to the budget, if you will, so that we can use those funds to finance new programs and modifications to existing programs as opposed to continually having moneys sitting around that are not being utilized and that, frankly, are not needed because we have finished those projects.

Mrs. LLOYD. Well, that's certainly reasonable.

Well, after reviewing your testimony I'm still rather concerned about reductions that have already taken place by the specific programs that are anticipating improved management practices, that haven't really happened. I'm just wondering about the impact on the programs if the efficiencies are not achieved since these programs have already had their funding levels reduced. How were the estimates of these savings calculated, Ms. Hesse?

Ms. HESSE. Well, the estimates were calculated by both the people in the programs and the people in management and administration by looking at the initiatives, by trying to decide how much savings we could easily achieve without influencing the programs, without affecting the programs. It is our intention that we will not, in any way, impair the programs.

Mrs. LLOYD. Where these efficiencies aren't achieved, though, how are the programs going to be impacted?

Ms. HESSE. Well, we have two ways that we're handling that in the 85 request. The first is that for some of the management efficiencies, for the Inspector General audit recoveries, for example, we are requesting the full amount of the appropriation and that amount will be offset by any savings that the Inspector General actually effects. And secondly, if the savings that are spread to the specific programs for managerial efficiencies are not achieved, we will either reprogram money—we do have reprograming authority from other areas—to cover those necessary moneys, or we will request a supplemental.

Mrs. LLOYD. How often will you report these savings, or how will this be carried through?

Ms. HESSE. Most of the savings are reported quarterly to the Office of Management and Budget, to OMB.

Mrs. LLOYD. Thank you very much for your testimony today. Some of our members are not here.

Mrs. Schneider?

Mrs. SCHNEIDER. Yes, I'd like to ask a question or two.

I'm curious to know about the Office of Consumer Affairs at DOE and what is happening there. I don't know if you've had the opportunity to cover that as yet.

Ms. HESSE. We have not.

Mrs. SCHNEIDER. I'm sorry I was detained, but I had another appointment going on. I wonder if you could elaborate a little bit about the status of the Department of Consumer Affairs and, as an information outreach office, I am very frustrated with the level of technology transfer and other information to the general public. Maybe you could give me a little insight as to what's going on there.

Ms. HESSE. Well, we have an Office of Consumer Affairs and it is located under the Assistant Secretary for Congressional, Intergovernmental, and Public Affairs. There is a new Director in that office; her name is Rose Bates. She is a very competent lady; she was head of the Secretary's outreach program until her recent promotion to this particular slot. We have requested $100,000 in 1985 for the Office of Consumer Affairs to handle general distribution of materials and general questions from consumers in general.

This funding is used specifically to conduct forums and workshops, and to participate in conference exhibits and other consumer events.

Mrs. SCHNEIDER. What was the budget for 1984 for that office?

Ms. HESSE. Well, the request was zero, and the reason that it was zero was that we covered the $100,000 budget through carryover funds. So it's essentially at the same level of effort in 1985 as in 1984, and actually as in 1983.

Mrs. SCHNEIDER. What kinds of staff changes may have occurred over the last 2 or 3 years there?

Ms. HESSE. I think there have been no staff changes of significance in the last 2 years in that office, but I will check that and submit it for the record.

Since the beginning of FY 82, the staffing level for the Office of Consumer Affairs has ranged from six to seven personnel.

Mrs. SCHNEIDER. The number of personnel is what I'm most interested in, quantity over quality. We can only assume that it's the highest quality, but I just wanted to check out on the number of folks that are working there. So if you would put that in the record, that would be greatly appreciated.

It's also come to my attention at times that if someone is interested in some documents and they call DOE's Office, sometimes they are referred to the specific laboratories that have generated those documents, like Oak Ridge or Brookhaven or something like that. What is the policy for satisfying the consumers and enabling them to obtain information?

Ms. HESSE. I think that if it is specific information that concerns a program at a specific location, that we would generally refer that individual to the Technical Information Center, which is the central repository of all of the research and development activities of the Department. That facility is located in Oak Ridge. And if there are specific brochures that come from a laboratory, for example, we would generally refer that person to the laboratory.

Mrs. SCHNEIDER. And then they are required to pay for that document themselves, and really track it down?

Ms. HESSE. If there is a fee for the document, they would be required to pay that fee, yes.

Mrs. SCHNEIDER. It doesn't sound like a very efficient way to help generate information, to my way of thinking. I would think that if we wanted to have, indeed, an effective and efficient clearinghouse, that we would have it all in one place where oftentimes—you see Public Service TV announcements that say, if you want more information about insulating your home, or, you know, this chimney heat reclaimer, you know, write to the Department of Energy, et cetera. And I wonder what the reasoning is behind not continuing in that vein?

Ms. HESSE. Well, I think there are two things. First of all, most of the functions of the Department of Energy are scientific and research and development in nature. We do very little consumer-oriented papers or produce very few consumer-oriented products, and in fact I'm not aware of products that we do have that are specifically designed for consumers as you and I might be. I think that if we have those publications, that they definitely should be available through the Office of Consumer Affairs and the individual should not have to track down where they might be obtained.

Mrs. SCHNEIDER. OK. Do you have any specific efforts underway now to make sure that DOE is operating effectively in their outreach effort to business and to the consumer? You had mentioned an outreach office where the current head of the Consumer Affairs Office had come from the outreach office. Is that outreach office still in existence? What is its function these days?

Ms. Hesse. The outreach office is still in existence; it was, in fact, started when Secretary Hodel came to the Department of Energy, and it has expanded in recent times; I would say that in the last 3 or 4 months, it has expanded from two people to maybe three or four people, to do just that, to improve our business outreach and our consumer outreach with consumer organizations—not individual consumers, but consuming organizations.

Mrs. Schneider. Have you conducted an analysis of that particular program? I mean, how would we place it on the scorecard? Is it effective, or room for improvement? Because I haven't heard anything about it at all, although I constantly tell my constituents, well, call DOE or this or that. It would be nice to know that there would be one central location where they could go, and—especially businessmen—have their questions answered.

Ms. Hesse. I agree that that is the best way and the most efficient way to handle any kind of an outreach program. I think that the outreach program has been successful, and I guess I think it's successful primarily because the Secretary is happy with it. But it's a new program, and I think maybe we should take a look at it and survey some of the business organizations and see if they have any complaints or suggestions for improvement, and we will do that.

Mrs. Schneider. Good enough. Thank you.

Mrs. Lloyd. Thank you very much, Mrs. Schneider.

Mr. Carney, do you have any questions?

Mr. Carney. Madam Chairman, I don't have any questions at this time.

Mrs. Lloyd. Mr. Fuqua?

Mr. Fuqua. One area, after having had a chance to look at the statement a little more carefully, in the management initiatives you indicate $47.5 million budget authority and equivalent saving, equivalent of 120 full-time staff, $96 million, additional 230 full-time equivalent staff in 1985. What happens to that money? Is it used in the programs, or does it revert back to the Treasury? I'm wondering where the savings are going.

Ms. Hesse. Well, for reductions in staff and for other kinds of efficiencies, the moneys that we recover would be used to offset the appropriation that we're requesting. The moneys would be returned to the Treasury, or would never be allocated.

Mr. Fuqua. You would not, then, be adjusting any program funding as a result of any of these savings?

Ms. Hesse. We have already adjusted the amounts that we're requesting to reflect those savings; and should we not be able to achieve those savings, we would either transfer money from other accounts or request a supplemental.

Mr. Fuqua. What happens in the recoupment of funds that the IG makes, in the 1-to-8 area? What happens to those funds?

Ms. Hesse. Well, that—we have a special way that we're going to handle that, and that's that our appropriation language that we're requesting says that we have a certain amount that we're requesting, and any moneys that the IG recovers, that those moneys will be used to offset the appropriation level.

Mr. FUQUA. So if you were, say, dealing with the Solar Conservation Program or whatever, you found certain savings, you would not spend that money in those programs but would revert it back to offset moneys that had already been appropriated?

Ms. HESSE. That's correct.

Mrs. LLOYD. What reward is there? Are we losing some of our incentives?

Ms. HESSE. I think that the reward for doing business in a more efficient manner is not only reduced cost, but I think that you also have happier employees because I have a report here, for example, that requires about 5,000 contractor hours to list every consultant in every contract location by name. And I think that that cannot give people very much job satisfaction by filling out those kinds of forms and preparing those kinds of lists, and I think that the less restrictions that we have on the contractors and on the employees, generally, the happier they are and the more satisfied they are and the more time and effort they can devote to jobs that really need to be done as opposed to redundant lists.

Mrs. LLOYD. I certainly agree with you.

Mr. FUQUA. Madam Chairman, one additional followup about the incentives. Suppose somebody was doing research in whatever field of energy, and they found a more efficient way to do that with their own time-utilization people, and they thought, well, we can do some additional work in this field because we have saved some money; we found that there are economies that can be instituted. If they have no opportunity to utilize those funds, it seems to me that there's not a great deal of incentive for them to try to look for ways to do it. I know you can't do all the management decisions from the Forrestal Building; you have to be out in the field and at the National Laboratories and so forth, but if they found a more efficient way of doing something and then would not be permitted to utilize any of those funds that they'd saved, I don't see that there's a great deal of incentive for managers in the field and in the laboratories.

Ms. HESSE. The management initiatives that we are dealing with have to do with reports, with filling out reports; for example, with payroll processing efficiencies, with travel processing efficiencies. They do not have to do with the R&D work that the laboratories and the contractors pursue. And if indeed they find, in a research and development activity, for example, a better and more efficient way of doing that research activity and saving money, they would go back to the program manager at DOE and, I presume, ask if they couldn't use the money that they've saved for other program activities. We are not concerned with that kind of efficiency in this particular issue.

Mr. FUQUA. Well, I certainly wouldn't want anything to impede Oak Ridge or Brookhaven or Livermore or some of the national labs—because I didn't enumerate them all, I didn't intentionally leave any of them out—that there be some incentive, particularly in R&D work that if they can find it they can use it; and they're always looking for money for research projects. They could either expand the scope of their research or do some other research that they feel is necessary and in the national interest. And I would certainly want that to be an incentive for them, to accomplish that. And it's good for the Government and it's good for them; everybody wins.

Ms. HESSE. I agree.

Mrs. LLOYD. Thank you very much, Mr. Fuqua.

I would like to ask for some of the members who are not present today if you would agree to answering questions that would be submitted in writing for the record of this hearing.

One final question. Would you explain to us how the Department has revised its policy concerning the title I and title II design funding?

Ms. HESSE. We have not requested money in 1985 for title I and title II design moneys. What we believe is that rather than having those moneys requested in a central location and in one place, that they would be requested by the cognizant programs.

Mrs. LLOYD. By the what?

Ms. HESSE. By the specific program. For example, if it was a Defense project, that Defense would request the moneys for title I and title II designs.

Mrs. LLOYD. I'm concerned about some of the projects that are in the budget, and I'm going to list them for you; and if you'd rather answer this in writing, it's agreeable with me.

I was wondering about some of the programs that were funded for title I and title II design—the MFTF-B upgrade and the TOKAMAK fusion core demonstration, the high flux breeder reactor, the ultra high energy accelerator, and the core handling facility?

Ms. HESSE. I would like to submit that for the record.

Mrs. LLOYD. Well, we'll be agreeable to that. We want to thank you for being with us today and reviewing your work. It's certainly proceeding in an outstanding fashion.

If there are no further questions, the subcommittee adjourned stands.

[Whereupon, at 1:43 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

PLANT ENGINEERING AND DESIGN

Question. To your knowledge, have the specific program offices requested Title I and Title II Design funding for the candidate projects originally proposed for FY 1985?

Fiscal year 1985 candidate project:	*Request*
MFTF-B Upgrade	$700,000
Tokamak Fusion Core Demo	500,000
High Flux Breeder Reactor	450,000
Ultra High Energy Accelerator	500,000
Core Handling Facility	800,000

Answer. No. the specific program offices did not request design funding for the candidate projects originally proposed for Plant Engineering and Design Fund for FY 1985.

APPENDIX I. Questions and Answers Submitted for the Record

DON FUQUA (Fla.), Chairman

ROBERT A. ROE, N.J.
GEORGE E. BROWN, JR., CALIF.
JAMES H. SCHEUER, N.Y.
RICHARD L. OTTINGER, N.Y.
TOM HARKIN, IOWA
MARILYN LLOYD, TENN.
DOUG WALGREN, PA.
DAN GLICKMAN, KANS.
ALBERT GORE, JR., TENN.
ROBERT A. YOUNG, MO.
HAROLD L. VOLKMER, MO.
BILL NELSON, FLA.
STAN LUNDINE, N.Y.
RALPH M. HALL, TEX.
DAVE MC CURDY, OKLA.
MERVYN M. DYMALLY, CALIF.
PAUL SIMON, ILL.
NORMAN Y. MINETA, CALIF.
RICHARD J. DURBIN, ILL.
MICHAEL A. ANDREWS, TEX.
BUDDY MACKAY, FLA.
TIM VALENTINE, N.C.
HARRY M. REID, NEV.
ROBERT G. TORRICELLI, N.J.
FREDERICK C. BOUCHER, VA.

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JUDD GREGG, N.H.
RAYMOND J. MC GRATH, N.Y.
JOE SKEEN, N. MEX.
CLAUDINE SCHNEIDER, R.I.
BILL LOWERY, CALIF.
ROD CHANDLER, WASH.
HERBERT H. BATEMAN, VA.
SHERWOOD L. BOEHLERT, N.Y.
ALFRED A. MC CANDLESS, CALIF.
TOM LEWIS, FLA.

J. H. POORE
Executive Director
ROBERT C. KETCHAM
General Counsel
DAVID S. JEFFERY
Minority Staff Director

March 19, 1984

Hon. Martha O. Hesse, Assistant Secretary
Management and Administration
Department of Energy
Washington, D.C. 20585

Dear Ms. Hesse:

Thank you for your excellent testimony at our March 13, 1984 Subcommittee hearing on the Department of Energy's budget request for Fiscal Year 1985.

We would like to supplement the record of the hearing with your responses to the attached questions. We would appreciate receiving your responses within five days from the date of this letter. Please forward this information to the Subcommittee office, Room B-374 Rayburn House Office Building, Washington, D.C. 20515, to the attention of Ms. Debbie Martin.

I appreciate your cooperation in this matter.

Sincerely,

Marilyn Lloyd
MARILYN LLOYD, Chairman
Subcommittee on Energy
Research and Production

ML:dm
Attachment

In-House Energy Management

Relative to the proposed $20 million cogeneration facility at Brookhaven, what are the projected annual savings in dollars per yea and including the cost of fuel, operators, maintenance and equipment replacements, what is the payback period on this plant and how was i calculated? How do these costs compare to replacing boiler No. 4? What calculations have you made comparing the cost of electric power generated in the near and long-terms compared to the cost of commerci power?

PLANT ENGINEERING AND DESIGN

- TO YOUR KNOWLEDGE, HAVE THE SPECIFIC PROGRAM OFFICES REQUESTED TITLE I AND TITLE II DESIGN FUNDING FOR THE CANDIDATE PROJECTS ORIGIALLY PROPOSED FOR FY 1985?

FY 1985 CANDIDATE PROJECTS:	REQUEST
MFTF-B UPGRADE	$700,000
TOKAMAK FUSION CORE DEMO	500,000
HIGH FLUX BREEDER REACTOR	450,000
ULTRA HIGH ENERGY ACCELERATOR	500,000
CORE HANDLING FACILITY	800,000

Congressional/Inter-Governmental/Public Affairs

- The staffing for the Office of Congressional and Public Affairs has declined from 140 FTE's in 1983 to a proposed 65 FTE level in FY 198 Can you tell us what is the current FTE level in this program?

- Were these staff reductions initially based on a merger with the Department of Commerce? (If so, and the merger is not forthcoming, which subprograms have been decreased and by how much?)

- How will the reduced staff levels enable you to continue your interfa with state and local governments and consumers?

- In view of this staff reduction, combined with the management initiative to reduce Federal information publications, how will consumers continue to be made aware of new energy policies which may affect them?

Department of Energy
Washington, D.C. 20585

March 28, 1984

Honorable Marilyn Lloyd
Chairman
Subcommittee on Energy Research
  and Production
Committee on Science and Technology
House of Representatives
Washington, D.C. 20515

Dear Madam Chairman:

On March 13, 1984, Assistant Secretary Martha Hesse appeared before your Subcommittee to discuss the Department of Energy's budget request for Fiscal Year 1985.

Following that hearing, you submitted written questions for response to supplement the record. Enclosed are answers to those questions.

If you have any questions, please call Cathy Carey or Tom Pretorius of my staff on 252-4277. They will be happy to assist you.

Sincerely,

Thomas H Pretorius

for Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

cc: Ms. Nancy Jeffery

QUESTIONS AND ANSWERS
RELATING TO THE
MARCH 13, 1984 HEARING
BEFORE THE
SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION
COMMITTEE ON SCIENCE AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

WITNESS: MARTHA O. HESSE
ASSISTANT SECRETARY FOR MANAGEMENT AND ADMINISTRATION
DEPARTMENT OF ENERGY

IN-HOUSE ENERGY MANAGEMENT

QUESTION: Relative to the proposed $20 million cogeneration facility at Brookhaven, what are the projected annual savings in dollars per year? Including the cost of fuel, operators, maintenance and equipment replacements, what is the payback period on this plant and how was it calculated? How do these costs compare to replacing boiler No. 4? What calculations have you made comparing the cost of electrical power generated in the near and long-terms compared to the cost of commercial power?

ANSWER: The projected annual dollar savings for the proposed cogeneration facility at Brookhaven are $4.26 million in budget year dollars in which the project cost is also expressed. The payback period of 3.4 years was calculated by utilizing all life-cycle costs (fuel, operations and maintenance, etc.) and all life-cycle benefits (electrical cost savings) in a discounted analysis, with a seven percent discount factor, as required by the National Energy Conservation and Policy Act of 1978 as amended. Replacement of boiler No. 4 would cost approximately $3.8 million. However, its replacement alone does not provide the substantial benefits derived from generating electricity. Considering both fuel costs, and the operating and maintenance costs associated with site generated electrical power, in the near term, power can be generated at half the cost per kilowatt hour of power purchased commercially from the Long Island Lighting Company (LILCO). The cogeneration plant will have a favorable heat rate of 6,160 British Thermal Units per kilowatt hour $\left(\frac{\text{BTU}}{\text{KWH}}\right)$, compared to an average commercial delivered heat rate of 11,600 $\left(\frac{\text{BTU}}{\text{KWH}}\right)$, and LILCO uses virgin oil as fuel, whereas the cogeneration plant

plant will use a fuel consisting of less costly waste oils and light feed stocks. Thus, it is expected that in the long-term, the cost differential between commercial power and site generated power will, at minimum, remain at 2 to 1.

PLANT ENGINEERING AND DESIGN

QUESTION: To your knowledge, have the specific program offices requested Title I and Title II Design funding for the candidate projects originally proposed for FY 1985?

FY 1985 Candidate Projects:	Request
MFTF-B Upgrade	$700,000
Tokamak Fusion Core Demo	500,000
High Flux Breeder Reactor	450,000
Ultra High Energy Accelerator	500,000
Core Handling Facility	800,000

ANSWER: No. The specific program offices did not request design funding for the candidate projects orginally proposed for Plant Engineering and Design funding for FY 1985.

QUESTION: The staffing for the Office of Congressional and Public Affairs has declined from 140 FTE's in 1983 to a proposed 65 FTE level in FY 1985. Can you tell us what is the current FTE level in this program?

ANSWER: The current on-board staffing for the Office of Congressional, Intergovernmental and Public Affairs is 131 FTE's.

QUESTION: Were these staff reductions intially based on a merger with the Department of Commerce? (If so, and the merger is not forthcoming, which subprograms have been decreased and by how much?)

ANSWER: The FY 1985 Budget presumes continuation of the Department as a cabinet level agency. Consistent with the Administration's policy of reducing Federal intervention in energy matters and allowing the operation of market forces to provide the most appropriate balance of energy consumption and supply, there is a significantly reduced need for Departmental congressional and public affairs activities. There will be staff reductions in these activities at the FY 1985 funding request levels. Final determination of the configuration of these activities will be consistent with the Departmental mission requirements and funding levels as approved by the Congress and the President.

QUESTION: How will the reduced staff levels enable you to continue your interaction with State and local governments and consumers?

ANSWER: The reduction in federal intervention in the market place accomplished by the Administration has significantly reduced the need for staff in this area. We are planning to retain a capability to address critical energy issues between the Department and State and local governments and consumers.

Question: In view of this staff reduction, combined with the management initiative to reduce Federal information publications, how will consumers continue to be made aware of new energy policies which may affect them?

Answer: We have made reductions in the number of publications developed within the Department that were duplicative and outdated; however, we have endeavored to ensure that publications are still available for the consuming public. The continuation of some consumer publications will be subject to an assessment of their costs and relative value. If the cost/benefit analyses demonstrates they are not cost effective they will be discontinued. As in the past, the major source of consumer information on energy matters will continue to be the mass media (radio, TV, news, magazines). There will be no reduction in essential information on energy policy being made available to the media.

DON FUQUA (Fla.), Chairman

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JAMES H. SCHEUER, N.Y.
RICHARD L. OTTINGER, N.Y.
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DAVID S. JEFFERY
Minority Staff Director

April 3, 1984

Honorable Martha O. Hesse
Assistant Secretary
Management and Administration
Department of Energy
Washington, D.C. 20585

Dear Ms. Hesse:

I would like to thank you once again for your excellent testimony at our March 13, 1984 Subcommittee hearing on the Department of Energy's budget request for Fiscal Year 1985.

In addition to the questions which we sent to you on March 19, 1984, we would like to supplement the hearing record with responses to the attached questions. These questions concern topics which were addressed in your testimony as well as the recent laboratory reviews which were undertaken by the ERAB and White House Science Council. We are very interested in the Department's plans regarding the implementation of the recommendations contained in these reports.

We would appreciate receiving your responses within three weeks from the date of this letter. Please forward this information to the Subcommittee office, Room B-374 Rayburn House Office Building, Washington, D.C. 20515, to the attention of Ms. Debbie Martin.

I appreciate your cooperation in this matter.

Sincerely,

Marilyn Lloyd
MARILYN LLOYD, Chairman
Subcommittee on Energy
Research and Production

ML:Mdm
Attachment

ADDITIONAL QUESTIONS FOR THE HEARING RECORD OF MARCH 13, 1984

SUPPORTING SERVICES

In-House Energy Management

1. How does boiler operator training qualify as an in-house energy management initiative? While boiler safety, water treatment and combustion control could effect fuel consumption, would operator training not be an integral part of normal personnel policy?

2. What is steam trap improvement, and isn't that part of maintenance?

3. What projects (examples) are included in the "Modifications for Energy Management at Various Locations"?

4. The January 31, 1984 "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for the In-House Energy Management program totalled \$30,800,000 including \$2,000,000 for operating expenses and \$28,800,000 for plant and capital equipment (PACE). The FY 1985 Congressional request for In-House Energy Management totalled \$24,000,000 including \$2,000,000 for operating expenses and \$22,000,000 for PACE. What are the specific differences between these two budgets?

5. What criteria are used to determine whether or not a given project is to be funded by the (a) MGPF Program, (b) In-House Energy Management Program, and (c) General Plant Projects (GPP)?

6. What centralized management does DOE provide for the (a) MGPF Program, (b) In-House Energy Management Program, and (c) GPP?

7. For the period FY 1981 - FY 1985, please provide a detailed breakdown of the actual and estimated funding for In-House Energy Management.

8. For the period FY 1981 - FY 1985, please provide, by DOE laboratory facility, a detailed breakdown of actual and estimated funding for In-House Energy Management.

Energy Conservation Surveys & Central Plant Studies

9. Please provide the actual and estimated funding levels for this project for the period FY 1981 - FY 1985.

10. For the period FY 1981 - FY 1985, please provide, by DOE laboratory/facility, actual and estimated funding for this project.

Modifications for Energy Management, Various Locations

11. Please provide the funding levels for this line-item for the period FY 1981 - FY 1985.

12. Please provide a listing of all projects started, completed, or underway for the period FY 1981 - FY 1985, as well as the funding levels and total cost of each.

13. For the period FY 1981 - FY 1985, by facility, what is the actual and estimated distribution of these funds among the DOE-owned facilities?

Line-Item Projects

14. For the period FY 1981 - FY 1985, please provide a listing of all line-item projects (e.g., Project 82-A-603, High Temperature Water Distribution System, Los Alamos National Laboratory) started, completed, or under construction, as well as their funding levels and total estimated cost.

Technical Information Management Program (TIMP)

15. It is our understanding that the Department's internal request for the Technical Information Management Program was $18.6 million, but that the OMB allowance and request to Congress was $15.4 million. What additional activities in the program could be funded if the $18.6 million were appropriated?

16. What is the current FTE level in the Technical Information Management Program?

17. Are Reductions-in-Force (RIF's) being planned for this program in order to lower the FTE level?

18. The January 31, 1984 "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for the TIMP totalled $18,600,000, including $16,600,000 for operating expenses and $2,000,000 for plant and capital equipment (PACE). The FY 1985 Congressional request for the TIMP totalled $15,442,000, including $14,632,000 for operating expenses and $800,000 for PACE. What are the specific differences between these two budgets?

19. For the period FY 1981 - FY 1985, please provide a detailed breakdown of the program's funding, including operating expenses and plant and capital equipment.

20. What are the specific DOE-wide policies, procedures, and guidelines relating to scientific and technical information both developed by or purchased using DOE funds?

21. The budget justification (Congressional Budget Request, FY 1985, Volume 3, p. 356) notes that there are two major on-site contractors at the Technical Information Center and that other

services are provided under contract with universities and private sector companies. For the period FY 1981 to present, please provide a listing of these contractors, as well as the funding provided each.

National Security Software Center (NESC)

22. What is the NESC? What does it do and what is its role in the Technical Information Management Program?

23. For the period FY 1981 - FY 1985, please provide funding and staffing levels of the NESC.

Plant Engineering and Design

24. For the period FY 1981 - FY 1984, please provide a listing and description of each of the projects funded by PED, as well as the funding level for each.

25. Why was it decided to terminate PED beginning in FY 1985? What specific changes in policy resulted in this decision?

Management Initiatives

26. On page 18 of your testimony, you stated that in February of this year, instructions and procedures were issued for the control and management of deobligations. Would you please elaborate on these procedures?

27. On page 19 of your testimony, you mentioned two instances which require amending existing law or new statutory language relative to the management initiatives. Are these the only instances in which Congressional action will be required in order to implement the proposed initiatives?

28. One of the categories listed by DOE as a source of savings is Printing and Publications. As this initiative is implemented, will the number of DOE publications change? In other words, in addition to making use of commercial sources for producing publications rather than in-house printing plants, are there plans to significantly alter the quantity of publications published by the Department?

Operations Offices

29. Will IG auditors be assigned to the field offices?

30. Would you please explain how the personnel reductions at the Operations Offices will affect contract performance and monitoring evaluations?

POLICY AND MANAGEMENT - ENERGY RESEARCH

1. Please clarify the staffing information for Policy and Management which appeared on pages 12 and 13 of your testimony.

   For Energy Research it seems that of the 21 FTE's on-board now - with the fiscal year almost half over - that 13 will be gone by the end of FY 1984, due simply to attrition. Is this corect?

   And for Nuclear Energy, 13 FTE's will be gone at the end of FY 1984, also due to attrition?

2. The January 31, 1984 "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for Policy and Management - Energy Research totalled \$1,350,000 for operating expenses. The FY 1985 Congressional request for this totalled \$530,000. What are the specific differences between these two budgets?

3. What has been the level of funding for Policy and Management - Energy Research for the period FY 1981 - FY 1985?

4. Given that the proposed funding for FY 1985 is only about 41% of the FY 1984 level, how can the staffing level remain the same?

5. What activities will not be carried out in FY 1985 because of the funding reductions?

supplement internal appraisals of laboratory performance, the Department should convene panels from recognized scientific bodies, such as the National Academies of Science and Engineering, to conduct periodic (at intervals not greater than five years) technical audits of laboratory programs in connection with approved institutional plans."?

8. What is being done to implement the recommendation that DOE "While maintaining priority status for essential Department missions, allow the laboratories to do more reimbursable work for others (other Federal agencies, state and local governments, and industry) by relaxing constraints on such work."?

9. What is being done to implement the recommendation that DOE "Undertake a well-planned education program among Headquarters, operations office, and laboratory staff on the recently liberalized patent policy to ensure that it will be vigorously implemented. In parallel, ensure that the private sector understands the new policy."?

Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

10. What is being done to implement the recommendation that DOE "Establish a consultant group of all laboratory directors to utilize more effectively laboratory resources in establishing the Department's research and development policy and directions."?

11. What is being done to implement the recommendation that DOE "Implement vigorously the assignment of lead missions to the laboratories, defining these in terms of major applied programmatic missions, and provide for significantly greater laboratory discretion in allocation of resources (within overall Headquarters established budgets for the mission area) and in the selection of performers."?

12. What is being done to implement the recommendation that DOE "In setting research priorities, give special weight to making optimal productive use of sophisticated equipment and facilities."?

13. What is being done to implement the recommendation that DOE "Establish user groups reporting to the Department, similar to the High Energy Physics Advisory Panel and the Nuclear Science Advisory Committee, for all of the Department's major mission programs and facilities. These could be established independently for each program function or under the umbrella of an overall advisory group."?

14. What is being done to implement the recommendation that DOE "Continue to support laboratory/university cooperation in the training of scientists and engineers through on-site participation by faculty and students in laboratory programs, term appointments, fellowships, etc."?

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS

Appropriate Roles and Missions of the Laboratories Vis-a-Vis Universities and Industry

1. What is being done to implement the September 1982 ERAB report's recommendations on the appropriate roles and missions of the laboratories vis-a-vis universities and industry?

Scientific and Technological Capabilities of the Laboratories

2. What is being done to implement the recommendation that the DOE "Urge the Office of Management and Budget to support rolling two-year appropriations by Congress for research and development with carryover funding to stabilize the Department and laboratory planning and program execution"?

3. What is being done to implement the recommendation that DOE "Designate a high level official, such as a Deputy Undersecretary, whose sole function is to be the Chief Laboratory Executive with authority to help defend the research and development budget; to allocate the resources; to decide where work is being done; and to assess laboratory scientific, technical, and managerial performance."?

4. What is being done to implement the recommendation that "Consistent with the foregoing, modify the roles of the operations offices with respect to the laboratories to focus on management of the contracts with the laboratory operating contractors and to de-emphasize their function as policy and programmatic intermediaries between Headquarters and the laboratories."?

5. What is being done to implement the recommendation that DOE "Arrange for the laboratory directors to have substantially more flexibility, within overall budgets and broad program guidelines, to reprogram assigned laboratory resources and to initiate or adapt programs in accordance with research and development opportunities. This reprogramming authority should be no less than 5% or more than 10% subject to satisfactory completion of the original assigned program activity. If additional Congressional authorization for this reprogramming is needed, the Department should seek it."?

The Department's Policies and Procedures with Respect to the Laboratories

6. What is being done to implement the recommendation that DOE "Utilize the services of an outside audit contractor familiar with both Government and industry practices to conduct a thorough audit of paperwork requirements in the Headquarters/operations offices/laboratory chain of command."?

7. What is being done to implement the recommendation that "To

15. What is being done to implement the recommendation that DOE "Permit and encourage joint ventures in selected projects with industry, including test and pilot demonstration (located at the laboratories or on industrial sites) in order to test economic feasibility and to shorten the time lag for technology transfer."?

16. What is being done to implement the recommendation that the DOE "In areas of special laboratory expertise and capabilities, allow and encourage the laboratories to work more closely with industry by such means as responding to requests for proposals from industry cooperative groups (e.g., American Society of Heating, Refrigeration, and Air-Conditioning Engineers; Electric Power Research Institute; and Gas Research Institute) and to work in partnership with industry in meeting technical needs of Federal agencies, as well as working directly for industry in connection with Federal agency requests for proposals."?

17. What is being done to implement the recommendation that DOE "Permit each laboratory to use 1% to 2% of its budget for independent research and development at the discretion of the laboratory director in order to enrich their research capabilities."?

18. What is being done to implement the recommendation that "Through a deliberative review and study by both the Department and the laboratories, identify institutional and doctrinal barriers to effective technology transfer and implement further action to ameliorate these."?

Alternative Strategies for Making Best Use of the Laboratories in a Constrained Budgetary Environment

19. What is being done to implement the recommendation that the DOE consider "Transferring appropriate DOE-sponsored work now performed by other Federal agencies and directing additional work into the laboratories by assigning to them those new tasks for which new laboratories might otherwise be established."?

20. What is being done to implement the recommendation that the DOE consider "Narrowing the missions of the laboratories to correspond to the resources available."?

21. What is being done to implement the recommendation that the DOE consider "Closing particular laboratories or merging one or more of them with other DOE laboratories or even with other appropriate institutions outside the Department."?

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL MAY 1983 RECOMMENDATIONS

Mission

1. What is being done to implement the recommendation that "As a top management priority, Federal agencies should reexamine the missions of their laboratories. Together with the laboratory directors, the agencies should redefine the missions as necessary to ensure that they are consistent with the appropriate roles for Federal laboratories. The missions must be made sufficiently clear and specific to guide the agency and the laboratories in setting goals against which the laboratories' performance can be evaluated."?

2. What is being done to implement the recommendation that "The size of each Federal laboratory should be determined by the missions and the quality of its work. That size should be allowed to increase or decrease (to zero, if necessary) depending on mission requirements, but it should not fluctuate randomly. Preservation of the laboratory is not a mission."?

Resources: Personnel

3. What is being done to implement the recommendation that "Administrative and legislative actions should be initiated now to create, at government-operated, contractor-operated laboratories, a scientific/technical personnel system that is independent of current Civil Service personnel systems. The experimental system for managing scientific and technical personnel at the Naval Weapons Center and Naval Oceans Systems Center is an example of how this can be approached."?

4. What is being done to implement the recommendation that "Contracts governing government-owned, contractor-operated laboratories should be rewritten to permit the contractor to establish and carry out an independent salary administration."?

5. What is being done to implement the recommendation that "Personnel ceilings at government-operated laboratories should not be used in addition to budgetary control. Federal agencies should provide budget constraints and give the laboratory directors freedom to decide how to meet them. Laboratory directors should also be allowed to make the final decisions on contracting for support services at their laboratories."?

Resources: Funding

6. What is DOE doing to help implement the recommendation that "The Congress and Office of Management and Budget should authorize funding for R&D programs on a predictable multiyear basis so that staffing levels and research activities at Federal laboratories can be properly planned."?

7. What is being done to implement the recommendation that "At least 5 percent, and up to 10 percent, of the annual funding of the Federal laboratories should be devoted to programs of independent research and development at the laboratory directors' discretion. Federal agencies should establish a mechanism to evaluate the results of such work, with the size and continuation of discretionary funds related to laboratory performance. In order to encourage cooperative research programs, the laboratory directors should have the authority, and be encouraged, to spend part of the discretionary funds at appropriate universities and industries."?

8. What is being done to implement the recommendation that "Federal laboratories should be allowed to carry forward remaining funds into the next fiscal year. This would eliminate the wasteful practice of hurried spending at the end of each fiscal year."?

Management

9. What is being done to implement the recommendation that "For each Federal laboratory, there should be an oversight function responsible for assuring the continuing excellence of the laboratory. This function could be performed by an external committee which should include strong industry and university representation. This committee would spend enough time at the laboratory to become familiar with the laboratory's strengths and weaknesses. It would focus on productivity and on excellence, relevance, and appropriateness of research. The oversight committee would make recommendations to the agency and inform the laboratory director of these recommendations. Those recommendations would be taken into account by the agency and laboratory in their budget decisions. In addition the committee would give special attention to reducing micromanagement by the sponsoring agency."?

10. What is being done to implement the recommendation that "Federal agencies should rely to a greater extent on the competitive peer review process for funding basic research at their laboratories."?

11. What is being done to implement the recommendation that "The laboratory director must be held accountable for the quality, relevance, and productivity of the laboratory. Appointment of the director should be for a finite term, with the option of extending or abbreviating the term depending on the performance of the director and the laboratory."?

12. What is DOE doing to help implement the recommendation that "The above recommendations apply to all Federal agencies. The management of the Department of Energy presents an additional special problem, and the Panel recommends that the Administration and Congress work together to stabilize and strengthen DOE management and to define and reaffirm its mission. Congress should also refocus its oversight of DOE R&D into a significantly

smaller number of committees."?

Interaction with Universities, Industry, and Users of Research Results

13. What is being done to implement the recommendation that "Federal laboratories should encourage much more access to their facilities by universities and industry."?

14. What is being done to implement the recommendation that "R&D interactions between Federal laboratories and industry should be greatly increased by more exchange of knowledge and personnel, collaborative projects, and industry funding of laboratory work, provided an oversight mechanism is established to prevent unfair competitive practices."?

15. What is being done to implement the recommendation that "Contracting by agencies and laboratories for universities and industry to conduct R&D should be encouraged by simplifying the necessary Federal procurement procedures. The procurement process should give laboratory directors greater flexibility in contracting."?

Department of Energy
Washington, D.C. 20585

May 4, 1984

Honorable Marilyn Lloyd
Chairman
Subcommittee on Energy Research
and Production
Committee on Science and Technology
House of Representatives
Washington, D.C. 20515

Dear Madam Chairwoman:

On March 13 Assistant Secretary Martha O. Hesse appeared before the Science and Technology Subcommittees on Energy Research and Production, and Energy Development and Applications to discuss the budget request for Fiscal Year 1985.

On March 19 and April 3, you submitted written questions for our response to supplement the record. On March 28 we responded to your March 19 request. Enclosed are the answers to questions you submitted with your April 3 letter.

If you have any questions, please call Cathy Carey or Tom Pretorius of my staff on 252-4277. They will be happy to assist you.

Sincerely,

Thomas H. Pretorius
for
Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

POST-HEARING QUESTIONS AND ANSWERS

Relating to the

MARCH 13, 1984, HEARING

Before the

SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION

And The

SUBCOMMITTEE ON ENERGY DEVELOPMENT AND APPLICATIONS

COMMITTEE ON SCIENCE AND TECHNOLOGY

U.S. HOUSE OF REPRESENTATIVES

WITNESS: MARTHA O. HESSE

IN-HOUSE ENERGY MANAGEMENT

QUESTION 1: How does boiler operator training qualify as an in-house energy management initiative? While boiler safety, water treatment and combustion control could effect fuel consumption, would operator training not be an intergral part of normal personnel policy?

ANSWER: Our Boiler Efficiency Program consists of a 4 day visit to each major DOE central steam plant by a team of boiler experts which provides:

1. An evaluation of how efficiently the plant is currently being operated.
2. A listing and rough economic analysis of possible retrofits to improve efficiency.
3. An actual tuning of the site specific boiler to maximize efficiency.
4. Hands-on training of boiler operators for their specific boilers to improve plant efficiency.

We are finding that operator training as part of normal personnel policy has varied widely from site to site, and has been primarily directed toward boiler operation and safety. It has not been directed toward energy efficiency, and thus, our centrally managed efficiency program is making field management and boiler operators much more aware of plant efficiency, and much more able to achieve energy and dollar savings by energy efficient steam plant operation.

IN-HOUSE ENERGY MANAGEMENT

QUESTION 2: What is steam trap improvement, and isn't that part of maintenance?

ANSWER: We are implementing a centrally managed steam trap program to ensure that traps at DOE sites function as intended, that is, that they allow the removal of condensed water from the distribution system and steam using equipment, but do not allow steam to escape from the system. Our Steam Trap Improvement Program consists of a 1 to 2 day visit to each major DOE site by steam trap specialists who provide:

1. Training of site personnel in latest steam trap technology.
2. Training in the selection of the optimum trap design and proper piping configurations for each sites' specific application, in order to maximize trap life expectancy.
3. A physical inspection of the sites' steam traps and an analysis of savings obtainable from correction of deficiencies.
4. An evaluation of the sites' steam trap maintenance program, and where needed, assistance in improving maintenance procedures.

Although one portion of our program is directed toward maintenance, it is considered an essential element in a program designed to improve energy efficiency.

IN-HOUSE ENERGY MANAGEMENT

QUESTION 3: What projects (examples) are included in the "Modifications for Energy Management at Various Locations"?

Answer: The attachment lists projects funded in FY 1984 and planned for funding in FY 1985 under "Modifications for Energy Management at Various Locations" which are typical examples of projects funded under this line item.

ATTACHMENT

MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS FY 1984 - FY 1985

APRIL 17, 1984

FY1984

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL/ ITRI	VARIABLE AIR VOLUME CONVERSION 3 BLDGS	100.0
AL/ KC	MODIFY DEHUMIDIFYING SYSTEMS	415.0
AL/ KC	MODIFICATION OF EXHAUST SYSTEMS	300.0
AL/ MOUND	EFFICIENT CONTROLS FOR AHU'S	850.0
AL/ RF	MIXING BAFFLES FOR SUPPLY AIR PLENUMS	52.0
AL/ SNL-A	POWER FACTOR CORRECTIONS	100.0
	SUBTOTAL (AL)	1817.0
CH/ ANL-E	ELECTRICAL PEAK SHAVING - STATEWIDE	72.0
CH/ ANL-E	MOD HVAC CNTRLS REDUCE O.A. 600 AREA	33.0
CH/ ANL-E	REDUCE SITE STEAM DISTRIBUTION PRESSURE	760.0
	SUBTOTAL (ANL-E)	865.0
CH/ BNL	IMPROVE EFFICIENCY OF MAG-AMP UNITS	940.0
CH/ BNL	SOLAR FILM ON WINDOWS VARIOUS BLDGS	175.0
CH/ BNL	DESTRATIFY HIGH BAY AREAS, 8 BLDGS	105.0
	SUBTOTAL (BNL)	1220.0
CH/ FERMI	TSTAT CONTROL VALVES FOR FINTUBE CNVCTRS	104.0
CH/ FERMI	SMALLER PUMPS-MAIN RING MAGNET COOLING	261.0
CH/ FERMI	WASTE HEAT RECVRY-HELILUM COMPRESSORS	402.0
CH/ FERMI	MTL HALIDE LTG CENT HELIUM LIQ BLDG	14.0
CH/ FERMI	HIGH EFFICIENCY MTRS-HELIUM COMPRESSORS	150.0
CH/ PPPL	DAS COMPUTER ROOM FREE COOLING	29.0
CH/ PPPL	DEADBAND THERMOSTATS & CEILING FANS	25.0
CH/ PPPL	RETROFIT OF SMALLER ELECTRIC MOTORS	195.0
CH/ PPPL	EFFICIENT BOILER CHEMICAL FEED TANKS	19.0
CH/ PPPL	VARIABLE FREQUENCY MOTOR DRIVES	530.0
	SUBTOTAL (CH)	1729.0
ID/ INEL	INEL BUILDING ENVELOPE UPGRADE	240.0
ID/ INEL	INEL LIGHTING & HVAC IMPROVEMENTS	310.0
	SUBTOTAL (ID)	550.0
METC	INSTALL CEILING RECIRCULATING FANS	81.0

FY 1985

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /LANL	HVAC SYSTMS RETROFITS, PH-2	635.0
AL /PI	BMS EXPANSION	890.0
AL /LANL	PHYSICS BLDG ENERGY CONSRVATION MODS	35.0
AL /KC	HEAT RECOVERY AT WEST BOILER HOUSE	360.0
	SUBTOTAL AL	1920.0
CH /ANL-E	MODIFY 165 AREA COOLING WATER SYSTM	639.0
CH /BNL	ELECTRICAL MODS FOR CDE VARIOUS BLDGS	120.0
CH /BNL	INSULATION OF MASONRY WALLS PH-2	930.0
CH /BNL	CONTROL MODS FOR CDE VARIOUS BLDGS	94.0
CH /BNL	IMPROVE EFF OF MAG-AMP UNITS PH-2	950.0
CH /BNL	ELECTRIC DEMAND LIMITING	980.0
CH /FERMI	LOW POWER COIL FOR 4004B MAGNET	255.0
CH /FERMI	REDUCE POWER CONSUMPTION OF LIGHTS	55.0
CH /PPPL	RETROFIT OF ELECTRIC MOTORS PHASE 2	283.0
CH /PPPL	C-SITE GAS CONVERSION	190.0
CH /PPPL	A-SITE GAS CONVERSION	240.0
	SUBTOTAL CH	4744.0
OR /ORNL	REPLACE STEAM LINE INSULATION	100.0
OR /PAD	CORRIDOR LIGHTING	73.0
OR /Y-12	OFF HRS SHUTDOWN/SETBACK 5 BLDGS	125.0
OR /Y-12	REDUCE FUME HOOD & RM EXHAUST, BLDG 9209	861.0
OR /Y-12	EXTEND UMS TO 9204-2E	330.0
OR /Y-12	EXTEND UMS TO 9735-9736,9739,& 9209	257.0
OR /Y-12	EXTEND UMS TO 9201-3	378.0
OR /Y-12	HVAC MODS, RM 247, BLDG 9201-5	125.0
OR /Y-12	BRINE CENTRAL CHILLER SYSTM, UMS	480.0
	SUBTOTAL CH	2729.0
SAN/LBL	POLE CAPS FOR SWITCHING MAGNETS-BEVATRON	155.0
SAN/LBL	POLE CAPS QUADRAPOLE MAGNETS BEVATRON	285.0
SAN/LLNL	RETROFIT A/C SYSTM CONTROLS & ECON B-131	125.0
SAN/LLNL	RETROFIT A/C SYSTM B-363,364,365,& 377	42.0
	SUBTOTAL SAN	607.0

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
AMSE	AMERICAN MUSEUM OF SCIENCE AND ENERGY
ANL	ARGONNE NATIONAL LAB-EAST SITE
BNL	BROOKHAVEN NATIONAL LABORATORY
CH	CHICAGO OPERATIONS OFFICE
EG&G	LAS VEGAS FACILITIES OF NEVADA TEST SITE
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FERMI	FERMI NATIONAL ACCELERATOR LABORATORY
FMPC	FERNALD FEED MATERIALS CENTER
ID	IDAHO OPERATIONS OFFICE AND FACILITIES OTHER THAN INEL
INEL	IDAHO NATIONAL ENGINEERING LABORATORY
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
METC	MORGANTOWN ENERGY TECHNOLOGY CENTER
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PETC	PITTSBURG ENERGY TECHNOLOGY CENTER
PI	PINELLAS PLANT
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LABORATORY
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND HANFORD COMPLEX
SAN	SAN FRANCISCO OPERATIONS OFFICE
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SNL	SANDIA NATIONAL LABORATORY
SR	SAVANNAH RIVER OPERATIONS OFFICE AND SAVANNAH RIVER PLANT
UOFR	UNIVERSITY OF ROCHESTER
UOFND	NOTRE DAME RADIATION LABORATORY
VARLOCS	VARIOUS LOCATIONS
Y-12	Y-12 PLANT

METC	HEAT RECOVERY SYSTEM BLDG 25	145.0		
	SUBTOTAL (METC)	226.0		
OR/ AMSE	RETROFIT OF HVAC SYSTEM	75.0		
OR/ FMFC	REDUCE LIGHTING FIXTURES	145.0		
OR/ Y-12	LIGHTING MODIFICATIONS BLDGS 9202-2 & 4	265.0		
	SUBTOTAL (OR)	485.0		
PETC	BLDG ENVELOPE UPGRADING BLDGS 58,83,404	470.0		
	SUBTOTAL (PETC)	470.0		
RL	OFF-SHIFT VENT SETBACK 324 BLDG 300A	415.0		
RL	OFF SHIFT VENT SETBACK, 325 BLDG 300A	470.0		
	SUBTOTAL (RL)	885.0		
SAN/LBL	BEVALAC R.F. POWER AMPLIFIER	920.0		
SAN/LBL	ENERGY MONITORING & CTL SYS INCREMENT II	600.0		
	SUBTOTAL (LBL)	1520.0		
SAN/LLNL	INSTALL DEADBAND CONTROL MODS BLDG 223	6.0		
SAN/LLNL	INSTALL HVAC CONTROL MODS BLDG 224	15.0		
SAN/LLNL	INSTALL DEMAND/DEADBAND/TIMECLOCK 343	28.0		
SAN/LLNL	INSTALL DEADBAND CONTROL MODS BLDG 214	7.3		
	SUBTOTAL (LLNL)	56.3		
SAN/SLAC	COMPUTER BUILDING ECONOMIZER	12.0		
	SUBTOTAL (SAN)	12.0		
SR	LIGHTING IMPROVEMENTS 320-M	105.0		
SR	MODS TO REFRIGERATION SYSTM ADMIN AREA	225.0		
SR	MODIFICATIONS TO POWERHOUSE FANS	600.0		
SR	LIGHTING IMPROVEMENTS 321 M	105.0		
	SUBTOTAL (SR)	1035.0		
	HEADQUARTERS CONTINGENCY	629.7		
		*********		*********
VARLOCS	FY 1984 MODS FOR ENERGY MGMT--TOTALS	11500.0	FY1985 TENTATIVE LIST-MODS FOR ENERGY MGMT-TOTAL	10000.0

IN-HOUSE ENERGY MANAGEMENT

QUESTION 4: The January 31, 1984, "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for the In-House Energy Management program totalled $30,800,000 including $2,000,000 for operating expenses and $28,800,000 for plant and capital equipment (PACE). The FY 1985 Congressional request for In-House Energy Management totaled $24,000,000 including $2,000,000 for operating expenses and $22,000,000 for PACE. What are the specific differences between these two budgets?

ANSWER: The specific difference of $6,800,000 between the Department's FY 1985 submission to OMB and the FY 1985 Congressional request for In-house Energy Management is as follows:

	OMB Request	Congressional Request	Difference
Modifications for Energy Management, Various Locations	$14,200,000	$10,000,000	-$4,200,000
Waste Heat Recovery, Idaho National Engineering Laboratory	900,000	-0-	- 900,000
Energy Monitoring and Control System, Mound Facility	1,700,000	-0-	- 1,700,000
Survey and Central Plant Studies	2,000,000	2,000,000	0
High Temperature Water Distribution System, Los Alamos National Laboratory	4,700,000	4,700,000	0
Fuel Storage Facility, Brookhaven National Laboratory	1,000,000	1,000,000	0
Combustion Air Preheater, Energy Technology Engineering Center	3,300,000	3,300,000	0
Cogeneration Facility, Brookhaven National Laboratory	3,000,000	3,000,000	0
	$30,800,000	$24,000,000	-$6,800,000

IN-HOUSE ENERGY MANAGEMENT

QUESTION 5: What criteria are used to determine whether or not a given project is to be funded by the (a) MGPF Program, (b) In-House Energy Management Program, and (c) General Plant Projects (GPP)?

ANSWER: The Multiprogram General Purpose Facilities program funds only line-item sized projects (i.e., those above $1 million) that benefit two or more programs where no one program uses more than 60 percent of the facility involved. GPP funds can support any general plant project with a total estimated cost less than $1 million. The In-house Energy Management (IHEM) program funds both line-item and GPP sized projects; however, these projects must provide a high return on investment based on energy cost savings. Payback is only one factor among many considered in the MGPF and GPP programs. Others include safety, health, environment, security, as well as programmatic need and impact.

In general the MGPF program rehabilitates or replaces "multi-program" facilities when they are deteriorated or constitute a hazard to personnel, operations or other facilities; whereas the IHEM program could replace a given facility if it has a quick payback period (usually 3-6 years). GPP funding levels are established in Headquarters, but, the actual projects undertaken are determined in the field based on a process which determines the highest priority current need each has developed.

IN-HOUSE ENERGY MANAGEMENT

QUESTION 6: What centralized management does DOE provide for the (a) MGPF Program, (b) In-house Energy Management Program, and (c) GPP?

ANSWER: All budgets are reviewed in terms of overall levels, issues and interactions at the Assistant Secretary level via the Internal Review Budget and the Institutional Planning processes. The Multiprogram General Purpose Facilities (MGPF) and In-house Energy Management (IHEM) Programs operate agency-wide and their staffs coordinate their budget requests and activities continuously. The IHEM is managed by the In-house Energy Management Branch, Office of Project and Facilities Management, under the Directorate of Administration, Assistant Secretary, Management and Administration. The MGPF Program is managed for the DOE by the Office of Field Operations Management under the Director, Office of Energy Research. Each of these staffs provides overall policy, program and budget review, delegates project execution responsibilities to the Operations Office, reviews field performance periodically, provides on-site reviews, and requests periodic reporting.

The GPP budget is also reviewed on both a Department-wide basis and also by each of the program offices responsible for managing specific GPP requirements. On a Department-wide basis, GPP levels are reviewed by the Office of Management and Administration. After the program level, the GPP requests are reviewed on a more detailed basis both during the formulation and execution phase for each of the projects supported.

IN-HOUSE ENERGY MANAGEMENT

QUESTION 7: For the period FY 1981 - FY 1985, please provide a detailed breakdown of the actual and estimated funding for In-House Energy Management.

ANSWER: The attachment shows actual funding for FY 1981 through FY 1984 and estimated funding for FY 1985 for In-House Energy Management.

ATTACHMENT

IN-HOUSE ENERGY MANAGEMENT PROGRAM FY 1981 - FY 1985

13 APRIL 1984

FY 1981

	FUNDED ($K)
RETROFIT PROJECTS:	
MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS	15787.7
ALTERNATE ENERGY SOURCE,PANTEX PLANT	1000.0
ENERGY MONITORING AND CONTROL SYSTEM, ARGONNE NATIONAL LAB	562.0
ENERGY MONITORING AND CONTROL SYSTEM, OAK RIDGE NATIONAL LAB	185.1
ENERGY MONITORING & CONTROL SYSTEM, Y-12 PLANT	2500.0
FY 1981 RETROFIT PROGRAM TOTALS	20027.8
FY 1981 SURVEY AND STUDY PROGRAM	3900.0
GRAND TOTAL FY 1981 PROGRAM	23927.8

FY 1982

	FUNDED ($K)
RETROFIT PROJECTS:	
MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS	14100.0
HIGH TEMPERATURE WATER DISTRIBUTION SYSTEM, LOS ALAMOS NATIONAL LAB	2100.0
ALTERNATE ENERGY SOURCE,PANTEX PLANT	1000.0
ENERGY MONITORING & CONTROL SYSTEM, Y-12 PLANT	2500.0
FY 1982 RETROFIT PROGRAM TOTALS	19700.0
FY 1982 SURVEY AND STUDY PROGRAM	3900.0
GRAND TOTAL FY 1982 PROGRAM	23600.0

FY 1983

	FUNDED ($K)
RETROFIT PROJECTS:	
MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS	13500.0
HIGH TEMPERATURE WATER DISTRIBUTION SYSTEM, LOS ALAMOS NATIONAL LAB	2000.0
FY 1983 RETROFIT PROGRAM TOTALS	15500.0
FY 1983 SURVEY & STUDY PROGRAM	500.0
GRAND TOTAL FY 1983 PROGRAM	16000.0

FY1984

	FUNDED ($K)
RETROFIT PROJECTS:	
MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS	11500.0

FY 1985

	FUNDED ($K)
RETROFIT PROJECTS:	
MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS	10000.0

[illegible] TEMPERATURE WATER DISTRIBUTION SYSTEM, LOS ALAMOS NATIONAL LAB	1700.0	HIGH TEMPERATURE WATER DISTRIBUTION SYSTEM, LOS ALAMOS NATIONAL LAB	4700.0
RESIDUAL ENERGY APPLICATIONS, PORTSMOUTH GASEOUS DIFFUSION PLANT	1332.0	FUEL STORAGE FACILITY, BROOKHAVEN NATIONAL LAB	1000.0
		SCTI COMBUSTION AIR PREHEATERS, ENERGY TECHNOLOGY ENGINEERING CTR	3300.0
		COGENERATION FACILITY, BROOKHAVEN NATIONAL LAB	3000.0
FY 1984 RETROFIT PROGRAM TOTALS	14532.0	FY 1985 RETROFIT PROGRAM TOTALS	22000.0
FY 1984 SURVEY AND STUDY PROGRAM	1200.0	FY 1985 SURVEY AND STUDY PROGRAM	2000.0
GRAND TOTAL FY 1984 PROGRAM	15732.0	GRAND TOTAL FY 1985 PROGRAM	24000.0

IN-HOUSE ENERGY MANAGEMENT

QUESTION 8: For the period FY 1981 - FY 1985, please provide by DOE laboratory facility, a detailed breakdown of actual and estimated funding for In-House Energy Management.

ANSWER: Attachments 1 and 2 list actual funding by project, by DOE site, for FY 1981 through FY 1984 and the estimated funding for FY 1985. Attachment 3 shows actual funding for surveys and studies by DOE site for FY 1981 through FY 1984. The distribution of FY 1985 survey funds has not yet been determined.

ATTACHMENT 1

IN-HOUSE ENERGY MANAGEMENT RETROFIT PROGRAM FY 1981 - FY 1983

12 APRIL 1984

FY 1981

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /ITRI	EVAPORATIVE COOLING & HUMIDIFICATION MOD	205.0
AL /MOUND	REPLACE STEAM TRAPS	385.0
AL /PI	CHILLED WATER SYSTEM IMPROVEMENTS	355.0
AL /RF	REDUCE STEAM DISTRIBUTION PRESSURE	625.0
AL /SNL-L	AUTOMATIC HVAC SHUTDOWN CONTROLS	165.0
AL /SNL-L	HVAC MODIFICATION AND ECONOMIZER CYCLE	53.0
AL /SNL-L	AUTOMATIC TEMPERATURE AND FLOW SETBACK	115.0
AL /SNL-L	INSTALL CHILLER ECONOMIZERS	32.0
AL /SNL-L	ENERGY MONITORING AND CONTROL SYSTEM	360.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 1	33.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 2	130.0
AL /SNL-A	AUTOMATIC FUME HOOD DAMPERS	190.0
AL /SNL-A	ENERGY MONITORING AND CONTROL SYSTEM	580.0
AL /SNL-A	ECONOMIZER, BUILDING 880	36.0
AL /SNL-A	INSULATE EXTERIOR WALLS, BUILDING 880	138.0
AL /	PROCESS METERING	48.9
	SUBTOTAL FY 1981 MODS (AL)	3470.9
CH /ANL-E	MODIFY CHILLERS & HVAC SYSTEMS, BLDG 202	99.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 212	1500.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 221	89.0
CH/ ANL-E	CONVERT HVAC CONTROLLED ENV ROOM,BLDG 20	37.0
CH /ANL-E	INSULATE LOADING DOCK SHOP SPACE,BLDG 20	15.0
CH /ANL-W	CUTBACK SITE SUPPER STEAM	110.0
CH /ANL-E	REPLACE TRANSLUCENT SIDING	11.0
CH /BNL	BLENDING SYSTEM-ALTERNATIVE LIQUID FUEL	355.0
CH /BNL	MODS TO VARIOUS BLDGS ENVIRON SYSTEMS	290.0
CH /BNL	INSULATE FUEL STORAGE TANK B611B	43.0
CH /BNL	MODS TO AGS SERVICE & OFFICE BLDG 911	230.0
CH /BNL	INSTALL AUTO STACK DAMPERS VARIOUS BLDGS	27.0
CH /BNL	AUTO EQUIP SHUTOFF CHILLER MODS BLDG 463	200.0
CH /BNL	HP SODIUM LTG-AGS EXPER. HALL BLDG 912	125.0
CH /FERMI	POND WATER TO COOL ACCELL'R COMPONENTS	99.3
CH /FERMI	CONVERT MESON FRONT END HALL BEAM LNS	657.0
CH/ FERMI	POWER FACTOR IMPROVEMENTS-PROTON LAB	59.9
CH /PPPL	BOILER RETRO FOR OPERATIONAL EFFICIENCY	62.0
CH /UOFR	HEAT RECOVERY D-WING	100.0
CH /UOFR	HEATING SYSTEM MODERNIZATION, D-WING	65.0
CH /UOFR	NIGHT SETBACK CONTROLS, D & DD-WINGS	40.0
CH /UOFR	STORM WINDOW INSTALLATION, D-WING	38.0
CH/ UOFRD	SETBACK THERMOSTATS, FREQ DR & COIL LOOP	295.0
	SUBTOTAL FY 1981 MODS (CH)	4563.2
ID/ INEL	FACILITY HEATING CONTROL UPGRADE	[illegible]

FY 1982

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /MOUND	EXTEND DDC SYS TO DS COMPUTER RM	20.0
AL /MOUND	RECOVER EXHAUST HEAT, WD BLDG	60.0
AL /KC	VAV CONVERSION, 220R	165.0
AL/ KC	CONDENSER BRUSHES FOR CHILLERS	410.0
AL/ KC	REPLACE FLOURESCENT LIGHTING WITH HPS	595.0
AL/ KC	MODIFY CHILLERS FOR FREE COOLING	220.0
AL/ KC	HEAT RECOVERY FROM CHILLED WATER SYSTEMS	435.0
AL/ LANL	HVAC MODS	950.0
AL/ ITRI	VENTILATION SYSTEMS SETBACK	194.0
AL/ PANTEX	FACILITIES ENERGY CONSERVATION	500.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM 3 BLDGS	193.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 870	266.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 890	305.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 893	155.0
AL/ SANDIA	CONVERT AREA III STREET LIGHTS TO HPS	30.0
AL /PI	BUILDING & UTILITY MGMT SYSTEM	100.0
	SUBTOTAL FY 1982 MODS (AL)	4598.0
CH/ ANL-E	HVAC MODS, BLDG 206-208	213.0
CH/ ANL-W	MISCELLANEOUS PROJECTS	101.0
CH/ BNL	ENVELOPE MODS BLDGS 179&164	94.0
CH/ BNL	OFF SEASON COOLING WITH UNITARY EQUIPMT	52.0
CH/ BNL	AUTOMATIC BRUSH CLEANING-34 CHILLERS	870.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	990.0
CH/ BNL	MODS TO VARIOUS BLDG SYSTEMS	360.0
CH/ BNL	INSTALL HIGH EFFICIENCY LIGHTING	85.0
CH/ BNL	HVAC IMPROVEMENT FOR CHEMISTRY BLDG	35.0
CH/ BNL	MECH SYSTEM IMPROVEMENTS	545.0
CH/ FERMI	LIGHT SWITCHES & AUTO CONTROLS	215.0
CH/ FERMI	AUTO HOT WATER HEATER&FURNACE DAMPERS	11.5
CH/ FERMI	SHUT OFF BOILERS IN SUMMER MONTHS	41.2
CH/ FERMI	MESON 800 FT AREA BEAM LINES CONVERSION	850.0
CH/ FERMI	NATURAL GAS HEATING-SITE 38 COMPLEX	87.0
	SUBTOTAL FY 1982 MODS (CH)	4499.0
ID/ INEL	MODS FOR ENERGY MANAGEMENT	460.0
ID/ INEL	LTG MODS, ECONOMIZER, INSULATION,IFPF	240.0
	SUBTOTAL FY 1982 MODS (ID)	700.0
NV/ NTS	INSTALL TIME CLOCKS BLDG CP-45	10.0
NV/ NTS	INSTALL TIME CLOCKS BLDG 609	3.9
NV/ NTS	INSTALL TIME CLOCKS BLDG CP-1	[illegible]

FY 1983

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL/ KC	EFFICIENT CONTROLS FOR AHU'S	360.0
AL/ KC	PLANT STEAM-CONDENSATE IMPROVEMENTS	330.0
AL/ MOUND	AUTO RESET BLDG THERMOSTATS PHASE 3	450.0
AL/ RF	CONTROL RM COOLING, BLDG 371	105.0
AL/ RF	MODIFY SUPER DRY AIR SYSTEM	46.0
AL/ RF	AUTOMATIC VENTILATION SETBACK	730.0
AL/ RF	MODIFY ZATHABARS BLDGS 707 & 707A	125.0
AL/ SNL-A	CONDENSATE RETURN SYSTEM-880	7.0
AL/ SNL-A	MODIFY HVAC BLDG 907	63.0
AL/ SNL-A	EVAP COOLING & HEAT RECOV FOR NT AREA	70.0
AL/ SNL-A	MODIFY HVAC BLDG 904	74.0
AL/ SNL-A	BOILER COMBUSTION AIR	77.0
	SUBTOTAL FY 1983 MODS (AL)	2437.0
CH/ ANL-E	MOD CNTR HVAC CUTBACK RED OA 26S AREA	460.0
CH/ ANL-E	OPT SAT RED OA RECOVER HEAT WG H B-200	155.0
CH/ ANL-E	MOD CNTRL OPTIMIZE HVAC SYST TEMPS B-223	69.0
CH/ ANL-E	REDUCE OUTDOOR AIR IMPRV TEMPCNTRL B-211	55.0
CH/ ANL-E	REPLACE INCANDESCENT W/FLUORESCENT LTNG	620.0
CH/ ANL-E	RED OA & RECOVER HEAT FROM EXHAUST B-306	155.0
CH/ ANL-E	IMPROVE TEMP CNTRL-RED OA B-301,308,335	81.0
CH/ ANL-W	INSTALL ELECTRIC FEEDWATER HEATER	31.0
CH/ ANL-W	BOILER COMBUSTIONS CONTROLLER	51.0
CH/ ANL-W	AIRCOOLED REFRIG CONDNSRS BLDGS 767/768	120.0
CH/ ANL-W	BOILER REFROFITS	84.0
	SUBTOTAL FY 1983 MODS (ANL)	1891.0
CH/ BNL	ENERGY MODS AT MED RESEARCH CTR BLDG 490	950.0
CH/ BNL	BUILDING ENVELOPE, EQUIP & CONTROL MODS	285.0
CH/ BNL	INSTALL SEPARATE CLG TWRS B703,750,801	590.0
CH/ BNL	UPGRADE PIPING & INSUL CENT STM FAC B610	195.0
CH/ BNL	INSULATE MASONRY BLDG WALLS-VAR BLDGS	920.0
CH/ BNL	HVAC & BLDG ENVELOPE MODS	305.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	315.0
	SUBTOTAL FY 1983 MODS (BNL)	3560.0
CH/ FERMI	HVAC REBALANCE CNTRL LAB,GLLRY &BOOSTER	470.0
CH/ FERMI	VARIABLE SPEED PUMPS - LCW PROTON AREA	170.0
CH/ FERMI	VARIABLE SPD PUMPS FOR LCW MESON AREA	115.0
CH/ FERMI	VARIABLE SPD PUMPS--LCW NEUTRINO AREA	176.0
CH/ PPPL	HI-BAY AIR DESTRATIFICATION	36.0
CH/ PPPL	NIGHT SETBACK SYSTEMS	43.0
CH/ PPPL	HIGH EFFICIENCY LIGHTING A & C AREAS	[illegible]

	SUBTOTAL FY 1981 MODS (ID)	814.0
OR /ORGDP	PREHEAT FURNACE COMBUSTION AIR K-1501	71.0
OR /ORNL	CHILLER EFFICIENCY UPGRADING	660.0
OR /ORNL	SEPARATE PROCESS AND HEATING STEAM LNS	130.4
OR /ORNL	UNOCCUPIED HRS AIR SHUTBACK, BLDG 5500	41.9
OR /ORNL	PREHEAT, REHEAT, VENT MODS (FUNDED 2.84)	840.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9995	320.0
OR /Y-12	CHILLER SYSTEM MODS, BLDG 9201-5	200.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9800	77.0
OR /Y-12	DEMAND RESET CONTROLS-BLDG 9203	8.0
OR /Y-12	DEMAND RESET, BLDG 9202	76.5
OR/ Y-12	TWO WAY CONTROL & MAKEUP LOUVERS	410.0
OR /PAD	INSTALL AUTO OFF-HR HVAC CUTBACK 3 BLDG	21.2
OR /PAD	INSTALL AUTO OFF-HOUR H/V CUTBACK C-720	19.6
OR /PAD	INSTALL AUTO OFF-HR LTG CUTBACK SW HSE	26.9
OR/	PROCESS METERING (Y-12)	48.0
	SUBTOTAL FY 1981 MODS (OR)	2951.4
PETC	HEAT RECOVERY, BLDG 84	160.0
	SUBTOTAL FY 1981 MODS (PETC)	160.0
RL	BUILDING INSULATION, 200 AREA	2.0
RL	WASTE HEAT RECOVERY (FMIT) FACILITY	590.0
	SUBTOTAL FY 1981 MODS (RL)	592.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	41.0
SAN/ETEC	INSTALL BACKDRAFT DAMPERS ON HVAC INTAKE	12.5
SAN/SLAC	ELECTRONIC HVAC TIMERS	9.5
SAN/	PROCESS METERING (SLAC)	45.5
SAN/	PROCESS METERING (LBL)	30.0
SAN/	PROCESS METERING (LLNL)	45.7
	SUBTOTAL FY 1981 MODS (SAN)	184.2
SR	HVAC SYSTEM MODIFICATIONS	40.0
SR	INSTALL HVAC AUTO DAMPERS, CTL & HPS LTG	126.0
SR	HVAC COOLING COIL BYPASS & DEMAND CONTRO	17.0
SR	HVAC SYSTEM AUTOMATIC SHUTDOWN	17.0
SR	HVAC AUTO SHUTDOWN DEMND TEMP CTL ECONOM	30.0
SR	AUTOMATIC OFF-HOUR FLOW REDUCTION	22.0
SR	CENT MONITORING REACTOR COOLING WTR SUPY	2650.0
SR/	PROCESS METERING	64.3
	SUBTOTAL FY 1981 MODS (SR)	2966.3
	HEADQUARTERS CONTINGENCY	90.6
		*********
VARLOCS	FY 1981 MODS FOR ENERGY MGMT--TOTAL	15780.7
	SUBTOTAL FY 1982 MODS (NV)	40.1
OR/ FMPC	REDUCE LIGHTING FIXTURES	10.4
OR/ FMPC	REPLACE STEAM LINE INSULATION	33.4
OR/ FMPC	REPLACE STEAM TRAPS	26.9
OR/ FMPC	AUTOMATIC STEAM SHUTOFF	2.0
OR/ ORGDP	INSTALL 2-SPEED H&V FAN MOTORS K-731	23.0
OR/ ORGDP	INSTALL HPS LTG K-802,832,862	26.0
OR/ ORGDP	TEMPERATURE SETBACK K-1030 OFFICES	7.5
OR/ ORGDP	INSULATE BLDG ATTICS & WALLS,7 BLDGS	13.0
OR/ ORGDP	INSTALL FLUOR LTG K-27 PROCESS BLDG	115.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 7602 &7603	60.0
OR/ ORNL	AUTOMATIC CONTROL X-10 STEAM TRACE	29.9
OR/ ORNL	HVAC MODIFICATIONS BLDG 5505	94.0
OR/ ORNL	FAN SPEED CONTROL BLDG 1505	40.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2000 & 2024	43.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2001 & 2525	110.0
OR/ ORNL	LIGHTING MODS BLDG 4500N	25.0
OR/ ORNL	HVAC MODS BLDG 7710	67.0
OR/ ORNL	HVAC MODS BLDG 1505 & 1506	47.0
OR/ ORNL	REDUCE OFF HOUR AIR FLOW BLDG 3025M	15.0
OR/ ORAU	ENERGY MANAGEMENT UPGRADING	24.1
OR/ Y-12	UNDERGROUND STEAM LINE BIOLOGY AREA	350.0
OR/ Y-12	AUTOMATIC STEAM TRACING VALVES	30.0
OR/ Y-12	INSULATE VALVES STEAM DISTRIBUTION SYS	72.0
OR/ Y-12	CONDENSATE RETURN BIOLOGY AREA	100.0
OR/ Y-12	HVAC MODS 9201-5N INSPECTION	78.0
OR/ Y-12	HVAC MODS BLDG 9204-4	155.0
OR/ Y-12	HVAC MODS WEST INSP DISPATCH AREA 9201-5	73.0
OR/ Y-12	COOLING TWR & CHILLER MODS 9212/9955	0.4
OR/ Y-12	BIOLOGY COOLING TOWER & CHILLER MODS	14.3
OR/ Y-12	HVAC MODS 9737	76.0
OR/ Y-12	BIOLOGY CLNT HVAC SYSTM OPTIMIZ	645.0
OR/ PAD	REPLACE INCAN W/FLUOR LTG IN ACR BSMT	47.6
OR/ PAD	REPLACE CELL FLOOR HI-BAY LTG W/HPS C337	206.7
OR/ PAD	REPLACE CELL FLOOR HI-BAY LTG W/HPS C333	206.0
OR/ PORTS	PHOTO CONTROL OF HI-BAY LTG BLDG X-720	70.0
OR/ PORTS	DOOR DRAFT CURTAINS	40.0
	SUBTOTAL FY 1982 MODS (OR)	3220.0
PETC	HEAT RECOVERY, MH120, BLDG 84	135.3
	SUBTOTAL FY 1982 MODS (PETC)	135.3
RL/	FFTF POWER FACTOR IMPROVEMENTS	305.0
	SUBTOTAL FY 1982 MODS (RL)	305.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	62.0
SAN/ETEC	SCTI H-1 & H-2 COMBUSTION EFFICIENCY IMP	95.0
SAN/LLNL	REPL 1 SPEED VENT MTRS W/MULTI SPD 331	5.0
SAN/LLNL	INSTALL DEADBAND AND TIMECLOCKS-BLDG 227	16.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 243	42.0
SAN/LLNL	CONTROL MODS BLDG 451	90.0
SAN/LLNL	AUTO H W LCW CONDUCT WATER SYSTEM	290.0
	SUBTOTAL FY 1982 MODS (SAN)	600.0
	HEADQUARTERS CONTINGENCY	1.0
		*********
VARLOCS	FY 1982 MODS FOR ENERGY MGMT-- TOTAL	10100.0
CH/ FIPL	LAB WING HVAC CORRECTIVE ACTIONS C 5.11	15.0
	SUBTOTAL FY 1983 MODS (CH OPS)	1309.0
ID/ INEL	BUILDING ENVELOPE MODIFICATIONS	600.0
	SUBTOTAL FY 1983 MODS (ID)	600.0
NV/ [illegible]	TIME CLOCKS AND WEATHERSTRIP(6/83)	29.0
NV/ NTS	WASTE HEAT RECOVERY BLDG CP-45	20.0
NV/ NTS	WASTE HEAT RECOVERY BLDG 300	40.0
NV/ NTS	HVAC CONTROL MODS BLDG 650	13.0
NV/ NTS	HVAC CONTROL MODIFICATIONS BLDG CP-1	90.0
	SUBTOTAL FY 1983 MODS (NV)	192.0
OR/ FMPC	ADD RISNG/REPL DMGD STM LINE INSULATN	47.0
OR/ ORGDP	INSTALL HPS LIGHTING K-1101/K-1201	37.0
OR/ ORNL	TIMERS, THERMOSTATS, VARIOUS BLDGS	100.0
OR/ ORNL	TIME CLOCK THERMOSTATS VARIOUS BLDGS.	76.0
OR/ ORNL	REPLACE STEAM LINES AREA 5000	250.0
OR/ Y-12	DEADBAND THERMOSTATS	6.0
OR/ Y-12	LIGHTING MODIFICATIONS BLDG 9204-3	350.0
OR/ Y-12	CONDENSATE RETURN BLDG 9204-3	41.0
	SUBTOTAL FY 1983 MODS (OR)	907.0
PETC	LIGHTING USAGE REDUCTION BLDG-58	69.0
	SUBTOTAL FY 1983 MODS (PETC)	69.0
RL	STATION SVC FROM EXCESS NPC STM,100N	780.0
RL	STEAM PLANT REPLACEMENT-3000 AREA(B/E3)	420.0
	SUBTOTAL FY 1983 MODS (RL)	1200.0
SAN/LLNL	INSTALL ECONOMIZERS & CTL SYS BLDG 174	90.0
SAN/LLNL	RETROFIT A/C SYS W/VAV CTRLS BLDG343	32.5
SAN/LLNL	INSTALL LOCAL CHILLER BLDG 251	40.0
SAN/LLNL	RETRO A/C SYS W/CTLS & ECONOMIZR BLDG 25	56.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 225	99.0
SAN/LLNL	CHILLED WATER RESET BLDG 331	29.0
SAN/LLNL	INSTALL DEADBANDS TIME CLOCKS, BLDG 341	20.0
SAN/LLNL	INST NEW CTLS & A/C SYS DEVICE BLDG 511	40.0
SAN/LLNL	INSTALL CONTROL MODS BLDG 241	25.0
SAN/LLNL	RETRO BLDG A/C CTL & ADD ECON BLDG 194	75.0
SAN/LLNL	RETROFIT A/C CONTROLS BLDG 212	33.0
	SUBTOTAL FY 1983 MODS (LLNL)	539.5
SAN/SLAC	POWER FACTOR MOTOR CONTROLLERS	70.0
SAN/ETEC	AUTOMATED ENERGY MANAGEMENT SYSTEM	540.0
SAN/ETEC	INSULATE HEAVY FAB BLDG	53.0
SAN/ETEC	HPS LIGHTING, HIGH BAY	79.0
SAN/ETEC	RETROFIT INTERIOR LTG & AC	28.0
	SUBTOTAL FY1983 MODS (SAN OPS)	770.0
	HEADQUARTERS CONTINGENCY	25.5
		*********
VARLOCS	FY 1983 MODS FOR ENERGY MGMT--TOTAL	13500.0

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OTHER LINE ITEM CONSTRUCTION PROJECTS:                             * OTHER LINE-ITEM CONSTRUCTION PROJECTS:                          * OTHER LINE-ITEM CONSTRUCTION PROJECTS:
**************************************                             * *************************************                           * *************************************

    AL /PANTX   ALTERNATE ENERGY SOURCE                 1000.0     *      AL /LANL    HIGH TEMP WATER DIST. SYSTEM           2100.0    *      AL /LANL    HIGH TEMP WATER DIST SYSTM             2000.0
                                                                   *                                                                 *
    CH /ANL-E   ENERGY MONITORING AND CONTROL SYSTEM     562.0     *      AL /PANTX   ALTERNATE ENERGY SOURCE                1000.0    *
                                                                   *                                                                 *
    OR /ORNL    ENERGY MONITORING AND CONTROL SYSTEM     105.1     *      OR /Y-12    ENERGY MONITORING AND CONTROL SYSTEM   2500.0    *
                                                                   *                                                                 *
    OR/ Y-12    ENERGY MONITORING & CONTROL SYSTEM      2500.0     *                                                                 *
                                                                   *                                                                 *
                ********************************       *******     *                  ********************************   ********    *                  ********************************   ********
                                                                   *                                                                 *
PROGRAM TOTALS:                                                    * PROGRAM TOTALS:                                                 * PROGRAM TOTALS:
***************                                                    * ***************                                                 * ***************

                FY 1981 RETROFIT PROGRAM TOTALS        20027.0     *                  FY 1982 RETROFIT PROGRAM TOTALS        19700.0   *                  FY 1983 RETROFIT PROGRAM TOTALS        15500.0


LEGEND:
AL        ALBUQUERQUE OPERATIONS OFFICE
AMSE      AMERICAN MUSEUM OF SCIENCE AND ENERGY
ANL       ARGONNE NATIONAL LAB-EAST SITE
BNL       BROOKHAVEN NATIONAL LABORATORY
CH        CHICAGO OPERATIONS OFFICE
[illegible]  LAS VEGAS FACILITIES OF NEVADA TEST SITE
ETEC      ENERGY TECHNOLOGY ENGINEERING CENTER
FERMI     FERMI NATIONAL ACCELERATOR LABORATORY
FMPC      FERNALD FEED MATERIALS CENTER
ID        IDAHO OPERATIONS OFFICE AND FACILITIES OTHER THAN INEL
INEL      IDAHO NATIONAL ENGINEERING LABORATORY
ITRI      INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC        KANSAS CITY PLANT
LANL      LOS ALAMOS NATIONAL LABORATORY
LBL       LAWRENCE BERKLEY LABORATORY
LLNL      LAWRENCE LIVERMORE NATIONAL LABORATORY
METC      MORGANTOWN ENERGY TECHNOLOGY CENTER
MOUND     MOUND LABORATORY
NTS       NEVADA TEST SITE
NV        NEVADA OPERATIONS OFFICE
OR        OAK RIDGE OPERATIONS OFFICE
ORGDP     OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL      OAK RIDGE NATIONAL LABORATORY
PAD       PADUCAH GASEOUS DIFFUSION PLANT
PETC      PITTSBURG ENERGY TECHNOLOGY CENTER
PI        PINELLAS PLANT
PORTS     PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL      PRINCETON PLASMA PHYSICS LABORATORY
RF        ROCKY FLATS PLANT
RL        RICHLAND OPERATIONS OFFICE AND HANFORD COMPLEX
SAN       SAN FRANCISCO OPERATIONS OFFICE
SLAC      STANFORD LINEAR ACCELERATOR CENTER
SNL       SANDIA NATIONAL LABORATORY
SR        SAVANNAH RIVER OPERATIONS OFFICE AND SAVANNAH RIVER PLANT
UOFR      UNIVERSITY OF ROCHESTER
UORND     NOTRE DAME RADIATION LABORATORY
VARLOCS   VARIOUS LOCATIONS
Y-12      Y-12 PLANT
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ATTACHMENT 2

IN-HOUSE ENERGY MANAGEMENT RETROFIT PROGRAM FY 1984 - FY 1985

APRIL 12, 1984

FY1984

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL/ ITRI	VARIABLE AIR VOLUME CONVERSION 3 BLDGS	100.0
AL/ KC	MODIFY DEHUMIDIFYING SYSTEMS	415.0
AL/ KC	MODIFICATION OF EXHAUST SYSTEMS	300.0
AL/ MOUND	EFFICIENT CONTROLS FOR AHU'S	850.0
AL/ RF	MIXING BAFFLES FOR SUPPLY AIR PLENUMS	52.0
AL/ SNL-A	POWER FACTOR CORRECTIONS	100.0
	SUBTOTAL (AL)	1817.0
CH/ ANL-E	ELECTRICAL PEAK SHAVING - STATEWIDE	72.0
CH/ ANL-E	MOD HVAC CNTRLS REDUCE O.A. 600 AREA	33.0
CH/ ANL-E	REDUCE SITE STEAM DISTRIBUTION PRESSURE	760.0
	SUBTOTAL (ANL-E)	865.0
CH/ BNL	IMPROVE EFFICIENCY OF MAG-AMP UNITS	940.0
CH/ BNL	SOLAR FILM ON WINDOWS VARIOUS BLDGS	175.0
CH/ BNL	DESTRATIFY HIGH BAY AREAS, 8 BLDGS	105.0
	SUBTOTAL (BNL)	1220.0
CH/ FERMI	TSTAT CONTROL VALVES FOR FINTUBE CNVCTRS	104.0
CH/ FERMI	SMALLER PUMPS-MAIN RING MAGNET COOLING	261.0
CH/ FERMI	WASTE HEAT RECVRY-HELIUM COMPRESSORS	402.0
CH/ FERMI	MTL HALIDE LTG CENT HELIUM LIQ BLDG	14.0
CH/ FERMI	HIGH EFFICIENCY MTRS-HELIUM COMPRESSORS	150.0
CH/ PPPL	DAS COMPUTER ROOM FREE COOLING	29.0
CH/ PPPL	DEADBAND THERMOSTATS & CEILING FANS	25.0
CH/ PPPL	RETROFIT OF SMALLER ELECTRIC MOTORS	195.0
CH/ PPPL	EFFICIENT BOILER CHEMICAL FEED TANKS	19.0
CH/ PPPL	VARIABLE FREQUENCY MOTOR DRIVES	530.0
	SUBTOTAL (CH)	1729.0
ID/ INEL	INEL BUILDING ENVELOPE UPGRADE	240.0
ID/ INEL	INEL LIGHTING & HVAC IMPROVEMENTS	310.0
	SUBTOTAL (ID)	530.0
METC	INSTALL CEILING RECIRCULATING FANS	81.0
METC	HEAT RECOVERY SYSTEM BLDG 25	145.0
	SUBTOTAL (METC)	226.0
OR/ AMSE	RETROFIT OF HVAC SYSTEM	75.0

FY 1985

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /LANL	HVAC SYSTMS RETROFITS, PH-2	635.0
AL /PI	EMS EXPANSION	890.0
AL /LANL	PHYSICS BLDG ENERGY CONSERVATION MODS	35.0
AL /KC	HEAT RECOVERY AT WEST BOILER HOUSE	360.0
	SUBTOTAL AL	1920.0
CH /ANL-E	MODIFY 205 AREA COOLING WATER SYSTM	639.0
CH /BNL	ELECTRICAL MODS FOR COE VARIOUS BLDGS	120.0
CH /BNL	INSULATION OF MASONRY WALLS PH-2	930.0
CH /BNL	CONTROL MODS FOR COE VARIOUS BLDGS	94.0
CH /BNL	IMPROVE EFF OF MAG-AMP UNITS PH-2	950.0
CH /BNL	ELECTRIC DEMAND LIMITING	900.0
CH /FERMI	LOW POWER COIL FOR 4004B MAGNET	255.0
CH /FERMI	REDUCE POWER CONSUMPTION OF LIGHTS	55.0
CH /PPPL	RETROFIT OF ELECTRIC MOTORS PHASE 2	283.0
CH /PPPL	C-SITE GAS CONVERSION	190.0
CH /PPPL	A-SITE GAS CONVERSION	240.0
	SUBTOTAL CH	4744.0
OR /ORNL	REPLACE STEAM LINE INSULATION	100.0
OR /PAD	CORRIDOR LIGHTING	73.0
OR /Y-12	OFF HRS SHUTDOWN/SETBACK 5 BLDGS	125.0
OR /Y-12	REDUCE FUME HOOD & RM EXHAUST, BLDG 9209	861.0
OR /Y-12	EXTEND UMS TO 9204-2E	330.0
OR /Y-12	EXTEND UMS TO 9733-9734,9739,& 9209	257.0
OR /Y-12	EXTEND UMS TO 9201-3	378.0
OR /Y-12	HVAC MODS, RM 247, BLDG 9201-5	125.0
OR /Y-12	BRINE CENTRAL CHILLER SYSTM, UMS	480.0
	SUBTOTAL OR	2729.0
SAN/LBL	POLE CAPS FOR SWITCHNG MAGNETS-BEVATRON	155.0
SAN/LBL	POLE CAPS QUADRAPOLE MAGNETS BEVATRON	285.0
SAN/LLNL	RETROFIT A/C SYSTM CONTROLS & ECON B-131	125.0
SAN/LLNL	RETROFIT A/C SYSTM B-363,364,365,& 377	42.0
	SUBTOTAL SAN	607.0

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
AMSE	AMERICAN MUSEUM OF SCIENCE AND ENERGY
ANL	ARGONNE NATIONAL LAB-EAST SITE
BNL	BROOKHAVEN NATIONAL LABORATORY
CH	CHICAGO OPERATIONS OFFICE
EG&G	LAS VEGAS FACILITIES OF NEVADA TEST SITE
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FERMI	FERMI NATIONAL ACCELERATOR LABORATORY
FMPC	FERNALD FEED MATERIALS CENTER
ID	IDAHO OPERATIONS OFFICE AND FACILITIES OTHER THAN INEL
INEL	IDAHO NATIONAL ENGINEERING LABORATORY
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
METC	MORGANTOWN ENERGY TECHNOLOGY CENTER
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PETC	PITTSBURG ENERGY TECHNOLOGY CENTER
PI	PINELLAS PLANT
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LABORATORY
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND HANFORD COMPLEX
SAN	SAN FRANCISCO OPERATIONS OFFICE
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SNL	SANDIA NATIONAL LABORATORY
SR	SAVANNAH RIVER OPERATIONS OFFICE AND SAVANNAH RIVER PLANT
UOFR	UNIVERSITY OF ROCHESTER
UONRD	NOTRE DAME RADIATION LABORATORY
VARLOCS	VARIOUS LOCATIONS
Y-12	Y-12 PLANT

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                                        SUBTOTAL (OR)        485.0

PETC       BLDG ENVELOPE UPGRADING BLDGS 58,83,&84          470.0

                                        SUBTOTAL (PETC)      470.0

RL         OFF-SHIFT VENT SETBACK 324 BLDG 300A             415.0
RL         OFF SHIFT VENT SETBACK, 325 BLDG 300A            470.0

                                        SUBTOTAL (RL)        885.0

SAN/LBL    BEVALAC R.F. POWER AMPLIFIER                     920.0
SAN/LBL    ENERGY MONITORING & CTL SYS INCREMENT II         600.0

                                        SUBTOTAL (LBL)      1520.0

SAN/LLNL   INSTALL DEADBAND CONTROL MODS BLDG 223             6.0
SAN/LLNL   INSTALL HVAC CONTROL MODS BLDG 224                15.0
SAN/LLNL   INSTALL DEMAND/DEADBAND/TIMECLOCK 343             28.0
SAN/LLNL   INSTALL DEADBAND CONTROL MODS BLDG 214             7.3

                                        SUBTOTAL (LLNL)       56.3

SAN/SLAC   COMPUTER BUILDING ECONOMIZER                      12.0

                                        SUBTOTAL (SAN)        12.0

SR         LIGHTING IMPROVEMENTS 320-M                      105.0
SR         MODS TO REFRIGERATION SYSTM ADMIN AREA           225.0
SR         MODIFICATIONS TO POWERHOUSE FANS                 600.0
SR         LIGHTING IMPROVEMENTS 321-M                      105.0

                                        SUBTOTAL (SR)       1035.0


                                HEADQUARTERS CONTINGENCY     629.7

                                                          *********
VARLOCS    FY 1984 MODS FOR ENERGY MGMT--TOTALS            11500.0

OTHER LINE-ITEM CONSTRUCTION PROJECTS:
*********************************
  AL /LANL    HIGH TEMP WATER DISTRIBUTION SYSTM            1700.0
                (TOTAL ESTIMATED COST = $10.5 MILLION)
  OR          RESIDUAL ENERGY APPLICATIONS,PORTSMOUTH       1332.0




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PROGRAM TOTALS:
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              FY 1984 RETROFIT PROGRAM TOTALS              14532.0
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                                                              *********
   FY1985 TENTATIVE LIST-MODS FOR ENERGY MGMT-TOTAL            10000.0

OTHER LINE-ITEM CONSTRUCTION PROJECTS:
*********************************
   AL /LANL     HIGH TEMP WATER DIST SYSTM                      4700.0
                  (TOTAL ESTIMATED COST = $10.5 MILLION)
   CH /BNL      FUEL STORAGE FACILITY                           1000.0
                  (TOTAL ESTIMATED COST = $2.7 MILLION)
   SAN/ETEC     SCTI COMBUSTION AIR PREHEATERS                  3300.0

   CH /BNL      COGENERATION FACILITY                           3000.0
                  (TOTAL ESTIMATED COST = $20.0 MILLION)
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PROGRAM TOTALS:
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                FY 1985 RETROFIT PROGRAM TOTALS                22000.0
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ATTACHMENT 3

IN HOUSE ENERGY MANAGEMENT SURVEYS AND STUDIES FY 1981 - FY 1985

APRIL 12, 1984

SITE	FY 1981 FUNDING $(000)	FY 1982 FUNDING $(000)	FY 1983 FUNDING $(000)	FY 1984 FUNDING $(000)	FY 1985 FUNDING $(000)
AL/ ITRI		65	20		
AL/ KC	110	260			
AL/ LANL	185	120	20	241	
AL/ MOUND	30	95	50		
AL/ PANTX	140	175	20		
AL/ PI		265			
AL/ RF	180	410			
AL/ SANDIA	65	21			
AL SUBTOTAL	710	1371	110	241	
CH/ ANL-EAST	240	185	50	70	
CH/ ANL-WEST	110	96	23		
CH/ BNL	264	50			
CH/ MIT	30				
CH/ PPPL	170	265	30	179	
CH/ U OF R	40	30			
CH/ U OF ND					
CH SUBTOTAL	854	626	103	249	
ID/	285	435		95	
ID SUBTOTAL	285	435		95	
NV/ NTS	25			92	
NV SUBTOTAL	25			92	
OR/		175			
OR/ AU	38				
OR/ CARL	32				
OR/ ORGDP	100				
OR/ ORNL	100	240			
OR/ PAD	75				
OR/ PORTS				110	
OR/ RUST	25				
OR/ Y-12	200	154			
OR SUBTOTAL	570	569		110	
ETC's	32				
ETC's SUBTOTAL	32				
RL/	310	255	45	63	
RL/ FFTF		20			
RL/ HEDL	22	73	55		
RL/ PNL	13				
RL SUBTOTAL	345	348	100	63	

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
ANL	ARGONNE NATIONAL LAB
AU	DOE BUILDINGS OCCUPIED BY ASSOC. UNIVERSITIES
BNL	BROOKHAVEN NATIONAL LAB
CARL	COMPARATIVE ANIMAL RESEARCH LAB
CH	CHICAGO OPERATIONS OFFICE
DOE-II	SUPPORT OF USE OF DOE-II PROGRAM IN DEPT
ETC'S	ENERGY TECHNOLOGY CENTERS, PITTSBURG & MORGANTOWN
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FFTF	FAST FLUX TEST FACILITY
HEDL	HANFORD ENGINEERING DEVELOPMENT LAB
ID	IDAHO OPERATIONS OFFICE AND COMPLEX
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
MIT	DOE BUILDINGS AT MASS. INSTITUTE OF TECHNOLOGY
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PANTEX	PANTEX PLANT
PI	PINELLAS PLANT
PNL	PACIFIC NORTHWEST LAB
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LAB
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND PRODUCTION PLANT
RUST	DOE BUILDINGS OCCUPIED BY RUST ENGINEERING
SAN	SAN FRANCISCO OPERATIONS OFFICE
SANDIA	SANDIA NATIONAL LAB
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SR	SAVANNAH RIVER OPERATIONS OFFICE AND PLANT
U OF ND	NOTRE DAME RADIATION LAB
U OF R	UNIVERSITY OF ROCHESTER
Y-12	Y-12 PLANT

	[illegible]				
SAN/ LPL	115			145	
SAN/ ETEC	45				
SAN/ LLNL	165	220	28		
SAN/ SLAC	70				
SAN SUBTOTAL	414	220	28	145	
SR	610	128	11		
SR SUBTOTAL	610	128	11		
HEADQUARTERS	55	203	148	305	
TOTALS	3900	3900	500	1200	2000

NOTES: 1. FY 1985 DISTRIBUTION OF FUNDS WILL NOT BE MADE UNTIL THE BEGINNING OF FY 1985.

2. THE $305,000 SHOWN FOR HEADQUARTERS IN FY 1984 CONTAINS SURVEY FUNDS THAT WILL BE DISTRIBUTED LATER IN THE FISCAL YEAR.

IN-HOUSE ENERGY MANAGEMENT

Energy Conservation Surveys and Central Plant Studies

QUESTION 9: Please provide the actual and estimated funding levels for this project for the period FY 1981 - FY 1985.

ANSWER: The following are actual funding levels for Energy Conservation Surveys for FY 1981 through FY 1984 and the requested level for FY 1985:

($ in Millions)

FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
$3.9	$3.9	$0.5	$1.2	$2.0

IN-HOUSE ENERGY MANAGEMENT

Energy Conservation Surveys and Central Plant Studies

QUESTION 10:	For the period FY 1981 - FY 1985, please provide, by DOE laboratory/facility, actual and estimated funding for this project.
ANSWER:	The attachment lists actual funding by DOE site for energy conservation surveys and central plant studies for FY 1981 through FY 1984. Final sites for FY 1985 surveys have not been selected.

ATTACHMENT

IN-HOUSE ENERGY MANAGEMENT SURVEYS AND STUDIES FY 1981 - FY 1985

APRIL 1[illegible], 1984

SITE	FY 1981 FUNDING $(000)	FY 1982 FUNDING $(000)	FY 1983 FUNDING $(000)	FY 1984 FUNDING $(000)	FY 1985 FUNDING $(000)
AL/ ITRI		65	20		
AL/ KC	110	260			
AL/ LANL	185	120	20	241	
AL/ MOUND	30	95	50		
AL/ PANTX	140	135	20		
AL/ PI		265			
AL/ RF	180	410			
AL/ SANDIA	65	21			
AL SUBTOTAL	710	1371	110	241	
CH/ ANL-EAST	240	185	50	70	
CH/ ANL-WEST	110	96	23		
CH/ BNL	264	50			
CH/ MIT	30				
CH/ PPPL	170	265	30	179	
CH/ U OF R	40	30			
CH/ U OF ND					
CH SUBTOTAL	854	626	103	249	
ID/	285	435		95	
ID SUBTOTAL	285	435		95	
NV/ NTS	25			92	
NV SUBTOTAL	25			92	
OR/		175			
OR/ AU	38				
OR/ CARL	32				
OR/ ORGDP	100				
OR/ ORNL	100	240			
OR/ PAD	75				
OR/ PORTS				110	
OR/ RUST	25				
OR/ Y-12	200	154			
OR SUBTOTAL	570	569		110	
ETC's	32				
ETC's SUBTOTAL	32				
RL/	310	255	45	63	
RL/ FFTF		20			
RL/ HEDL	22	73	55		
RL/ PNL	13				
RL SUBTOTAL	345	348	100	63	

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
ANL	ARGONNE NATIONAL LAB
AU	DOE BUILDINGS OCCUPIED BY ASSOC. UNIVERSITIES
BNL	BROOKHAVEN NATIONAL LAB
CARL	COMPARATIVE ANIMAL RESEARCH LAB
CH	CHICAGO OPERATIONS OFFICE
DOE-II	SUPPORT OF USE OF DOE-II PROGRAM IN DEPT
ETC'S	ENERGY TECHNOLOGY CENTERS, PITTSBURG & MORGANTOWN
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FFTF	FAST FLUX TEST FACILITY
HEDL	HANFORD ENGINEERING DEVELOPMENT LAB
ID	IDAHO OPERATIONS OFFICE AND COMPLEX
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
MIT	DOE BUILDINGS AT MASS. INSTITUTE OF TECHNOLOGY
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PANTEX	PANTEX PLANT
PI	PINELLAS PLANT
PNL	PACIFIC NORTHWEST LAB
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LAB
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND PRODUCTION PLANT
RUST	DOE BUILDINGS OCCUPIED BY RUST ENGINEERING
SAN	SAN FRANCISCO OPERATIONS OFFICE
SANDIA	SANDIA NATIONAL LAB
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SR	SAVANNAH RIVER OPERATIONS OFFICE AND PLANT
U OF ND	NOTRE DAME RADIATION LAB
U OF R	UNIVERSITY OF ROCHESTER
Y-12	Y-12 PLANT

SAN/ [illegible]	[illegible]				
SAN/ LBL	115				
SAN/ ETEC	45			45	
SAN/ LLNL	165	220	28		
SAN/ SLAC	70				
SAN SUBTOTAL	414	220	28	45	
SR	610	128	11		
SR SUBTOTAL	610	128	11		
HEADQUARTERS	55	207	148	505	
TOTALS	3900	3900	500	1200	2000

NOTES: 1. FY 1985 DISTRIBUTION OF FUNDS WILL NOT BE MADE UNTIL THE BEGINNING OF FY 1985.

2. THE $505,000 SHOWN FOR HEADQUARTERS IN FY 1984 CONTAINS SURVEY FUNDS THAT WILL BE DISTRIBUTED LATER IN THE FISCAL YEAR.

IN-HOUSE ENERGY MANAGEMENT

Modifications for Energy Management Various Locations

QUESTION 11: Please provide the funding levels for this line item for the period FY 1981 - FY 1985.

ANSWER: The following are the funding levels for "Modifications for Energy Management at Various Locations" for FY 1981 through FY 1985:

($ in Millions)

FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
$15.8	$14.1	$13.5	$11.5	$10.0

IN-HOUSE ENERGY MANAGEMENT

Modifications for Energy Management Various Locations

QUESTION 12: Please provide a listing of all projects started, completed, or underway for the period FY 1981 - FY 1985, as well as the funding levels and total cost of each.

ANSWER: Attachments 1 and 2 list the actual projects funded under "Modifications for Energy Management at Various Locations" by DOE facility for the period FY 1981 through FY 1984 and the planned distribution for FY 1985. For these projects the total estimated cost is the same as the funded amount.

ATTACHMENT I

MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS FY 1981 - FY1985

12 APRIL 1984

FY 1981

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL /ITRI	EVAPORATIVE COOLING & HUMIDIFICATION MOD	205.0
AL /MOUND	REPLACE STEAM TRAPS	385.0
AL /PI	CHILLED WATER SYSTEM IMPROVEMENTS	355.0
AL /RF	REDUCE STEAM DISTRIBUTION PRESSURE	675.0
AL /SNL-T	AUTOMATIC HVAC SHUTDOWN CONTROLS	165.0
AL /SNL-L	HVAC MODIFICATION AND ECONOMIZER CYCLE	53.0
AL /SNL-L	AUTOMATIC TEMPERATURE AND FLOW SETBACK	115.0
AL /SNL-L	INSTALL CHILLER ECONOMIZERS	32.0
AL /SNL-L	ENERGY MONITORING AND CONTROL SYSTEM	360.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 1	53.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 2	110.0
AL /SNL-A	AUTOMATIC FUME HOOD DAMPERS	190.0
AL /SNL-A	ENERGY MONITORING AND CONTROL SYSTEM	580.0
AL /SNL-A	ECONOMIZER, BUILDING 880	36.0
AL /SNL-A	INSULATE EXTERIOR WALLS, BUILDING 880	138.0
AL /	PROCESS METERING	48.9
	SUBTOTAL FY 1981 MODS (AL)	3500.9
CH /ANL-E	MODIFY CHILLERS & HVAC SYSTEMS, BLDG 202	99.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 212	1500.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 221	89.0
CH/ ANL-E	CONVERT HVAC CONTROLLED ENV ROOM,BLDG 20	37.0
CH /ANL-E	INSULATE LOADING DOCK SHOP SPACE,BLDG 20	15.0
CH /ANL-W	CUTBACK SITE SUMMER STEAM	110.0
CH /ANL-W	REPLACE TRANSLUCENT SIDING	11.0
CH /BNL	BLENDING SYSTEM ALTERNATIVE LIQUID FUEL	355.0
CH /BNL	MODS TO VARIOUS BLDGS ENVIRON STATIONS	290.0
CH /BNL	INSULATE FUEL STORAGE TANK #6110	41.0
CH /BNL	MODS TO AGS SERVICE & OFFICE BLDG 911	230.0
CH /BNL	INSTALL AUTO STACK DAMPERS VARIOUS BLDGS	27.0
CH /BNL	AUTO EQUIP SHUTOFF CHILLER MODS-BLDG 463	200.0
CH /BNL	HP SODIUM LTG AGS EXPER. HALL BLDG 912	125.0
CH /FERMI	POND WATER TO COOL ACCELL'R COMPONENTS	[illegible]
CH /FERMI	CONVERT MESON FRONT END HALL BEAM LN	[illegible]
CH/ FERMI	POWER FACTOR IMPROVEMENTS-PROTON LAB	[illegible]
CH /PPPL	BOILER RETRO FOR OPERATIONAL EFFICIENCY	[illegible]
CH /UOFR	HEAT RECOVERY O WING	[illegible]
CH /UOFR	HEATING SYSTEM MODERNIZATION, O WING	65.0
CH /UOFR	NIGHT SETBACK CONTROLS, O & OO WINGS	40.0
CH /UOFR	STORM WINDOW INSTALLATION, O WING	30.0
CH/ UOFND	SETBACK THERMOSTATS, FEED DP & COIL LOOP	295.0
	SUBTOTAL FY 1981 MODS (CH)	4503.2
[illegible]	[illegible]	[illegible]

FY 1982

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL /MOUND	EXTEND DDC SYS TO OS COMPUTER RM	20.0
AL /MOUND	RECOVER EXHAUST HEAT, WD BLDG	60.0
AL /KC	VAV CONVERSION, 220R	165.0
AL/ KC	CONDENSER BRUSHES FOR CHILLERS	410.0
AL/ KC	REPLACE FLOURESCENT LIGHTING WITH HPS	595.0
AL/ KC	MODIFY CHILLERS FOR FREE COOLING	220.0
AL/ KC	HEAT RECOVERY FROM CHILLED WATER SYSTEMS	435.0
AL/ LANL	HVAC MODS	* 950.0
AL/ ITRI	VENTILATION SYSTEMS SETBACK	194.0
AL/ PANTEX	FACILITIES ENERGY CONSERVATION	500.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM 3 BLDGS	193.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 870	266.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 880	305.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 893	155.0
AL/ SANDIA	CONVERT AREA III STREET LIGHTS TO HPS	30.0
AL /PI	BUILDING & UTILITY MGMT SYSTEM	100.0
	SUBTOTAL FY 1982 MODS (AL)	4598.0
CH/ ANL-E	HVAC MODS, BLDG 206-208	213.0
CH/ ANL-W	MISCELLANEOUS PROJECTS	101.0
CH/ BNL	ENVELOPE MODS BLDGS 129&164	44.0
CH/ BNL	OFF SEASON COOLING WITH UNITARY EQUIPMT	52.0
CH/ BNL	AUTOMATIC BRUSH CLEANING 34 CHILLERS	870.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	990.0
CH/ BNL	MODS TO VARIOUS BLDG SYSTEMS	360.0
CH/ BNL	INSTALL HIGH EFFICIENCY LIGHTING	85.0
CH/ BNL	HVAC IMPROVEMENT FOR CHEMISTRY BLDG	35.0
CH/ BNL	MECH SYSTEM IMPROVEMENTS	545.0
CH/ FERMI	LIGHT SWITCHES & AUTO CONTROLS	215.0
CH/ FERMI	AUTO HOT WATER HEATER&FURNACE DAMPERS	11.6
CH/ FERMI	SHUT OFF BOILERS IN SUMMER MONTHS	41.2
CH/ FERMI	MESON 890 FT AREA BEAM LINES CONVERSION	850.0
CH/ FERMI	NATURAL GAS HEATING-SITE 38 COMPLEX	87.0
	SUBTOTAL FY 1982 MODS (CH)	4499.8
ID/ INEL	MODS FOR ENERGY MANAGEMENT	460.0
ID/ INEL	LTG MODS, ECONOMIZER, INSULATION,IFPF	240.0
	SUBTOTAL FY 1982 MODS (ID)	700.0
NV/ NTS	INSTALL TIME CLOCKS BLDG CP-45	10.0
NV/ NTS	INSTALL TIME CLOCKS BLDG 600	3.9
[illegible]	[illegible]	[illegible]

FY 1983

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL/ KC	EFFICIENT CONTROLS FOR AHU'S	360.0
AL/ KC	PLANT STEAM CONDENSATE IMPROVEMENTS	330.0
AL/ MOUND	AUTO RESET BLDG THERMOSTATS PHASE 3	450.0
AL/ RF	CONTROL RM COOLING, BLDG 371	105.0
AL/ RF	MODIFY SUPER DRY AIR SYSTEM	46.0
AL/ RF	AUTOMATIC VENTILATION SETBACK	730.0
AL/ RF	MODIFY KATHABARS BLDGS 707 & 707A	125.0
AL/ SNL-A	CONDENSATE RETURN SYSTEM 880	7.0
AL/ SNL-A	MODIFY HVAC BLDG 907	63.0
AL/ SNL-A	EVAP COOLING & HEAT RECOV FOR HT AREA	70.0
AL/ SNL-A	MODIFY HVAC BLDG 904	74.0
AL/ SNL-A	BOILER COMBUSTION AIR	77.0
	SUBTOTAL FY 1983 MODS (AL)	2437.0
CH/ ANL-E	MOD CNTR HVAC CUTBACK RED OA 26S AREA	460.0
CH/ ANL-E	OPT SAT RED OA RECOVER HEAT WE M B-200	155.0
CH/ ANL-E	MOD CNTRL OPTIMIZE HVAC SYST TEMPS B-223	69.0
CH/ ANL-E	REDUCE OUTDOOR AIR IMPRV TEMPCNTRL B-211	55.0
CH/ ANL-E	REPLACE INCANDESCENT W/FLUORESCENT LTNG	630.0
CH/ ANL-E	RED OA & RECOVER HEAT FROM EXHAUST B-306	155.0
CH/ ANL-E	IMPROVE TEMP CNTRL-RED OA B 301,308,335	81.0
CH/ ANL-W	INSTALL ELECTRIC FEEDWATER HEATER	31.0
CH/ ANL-W	BOILER COMBUSTIONS CONTROLLER	51.0
CH/ ANL-W	AIRCOOLED REFRIG CONDNSRS BLDGS 767/768	120.0
CH/ ANL-W	BOILER REFROFITS	84.0
	SUBTOTAL FY 1983 MODS (ANL)	1891.0
CH/ BNL	ENERGY MODS AT MED RESEARCH CTR BLDG 490	950.0
CH/ BNL	BUILDING ENVELOPE, EQUIP & CONTROL MODS	285.0
CH/ BNL	INSTALL SEPARATE CLG TWRS B703,750,801	590.0
CH/ BNL	UPGRADE PIPING & INSUL CENT STM FAC B610	195.0
CH/ BNL	INSULATE MASONRY BLDG WALLS-VAR BLDGS	920.0
CH/ BNL	HVAC & BLDG ENVELOPE MODS	305.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	315.0
	SUBTOTAL FY 1983 MODS (BNL)	3560.0
CH/ FERMI	HVAC REBALANCE CNTRL LAB,GLLRY &BOOSTER	470.0
CH/ FERMI	VARIABLE SPEED PUMPS - LCW PROTON AREA	170.0
CH/ FERMI	VARIABLE SPD PUMPS FOR LCW MESON AREA	115.0
CH/ FERMI	VARIABLE SPD PUMPS--LCW NEUTRINO AREA	170.0
CH/ PPPL	HI BAY AIR DESTRATIFICATION	36.0
CH/ PPPL	NIGHT SETBACK SYSTEMS	43.0
[illegible]	[illegible]	[illegible]

	SUBTOTAL FY 1981 MODS (ID)	814.0
OR /ORGDP	PREHEAT FURNACE COMBUSTION AIR K-1501	71.0
OR /ORNL	CHILLER EFFICIENCY UPGRADING	660.0
OR /ORNL	SEPARATE PROCESS AND HEATING STEAM LNS	130.4
OR /ORNL	UNOCCUPIED HRS AIR SHUTBACK, BLDG 5500	41.9
OR /ORNL	PREHEAT, REHEAT, VENT MODS (FUNDED 2.84)	840.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9995	320.0
OR /Y-12	CHILLER SYSTEM MODS, BLDG 9201-5	200.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9808	77.0
OR /Y-12	DEMAND RESET CONTROLS BLDG 9203	8.8
OR /Y-12	DEMAND RESET, BLDG 9202	76.5
OR/ Y-12	TWO WAY CONTROL & MAKEUP LOUVERS	410.0
OR /PAD	INSTALL AUTO OFF-HR HVAC CUTBACK 3 BLDG	21.2
OR /PAD	INSTALL AUTO OFF HOUR H/V CUTBACK C-720	19.6
OR /PAD	INSTALL AUTO OFF-HR LTG CUTBACK SW HSE	26.9
OR/	PROCESS METERING (Y-12)	48.0
	SUBTOTAL FY 1981 MODS (OR)	2951.4
PETC	HEAT RECOVERY, BLDG 84	160.0
	SUBTOTAL FY 1981 MODS (PETC)	160.0
RL	BUILDING INSULATION, 200 AREA	2.0
RL	WASTE HEAT RECOVERY (FMIT) FACILITY	590.0
	SUBTOTAL FY 1981 MODS (RL)	592.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	41.0
SAN/ETEC	INSTALL BACKDRAFT DAMPERS ON HVAC INTAKE	12.5
SAN/SLAC	ELECTRONIC HVAC TIMERS	9.5
SAN/	PROCESS METERING (SLAC)	45.5
SAN/	PROCESS METERING (LBL)	30.0
SAN/	PROCESS METERING (LLNL)	45.7
	SUBTOTAL FY 1981 MODS (SAN)	184.2
SR	HVAC SYSTEM MODIFICATIONS	40.0
SR	INSTALL HVAC AUTO DAMPERS, CTL & HPS LTG	126.0
SR	HVAC COOLING COIL BYPASS & DEMAND CONTRO	17.0
SR	HVAC SYSTEM AUTOMATIC SHUTDOWN	17.0
SR	HVAC AUTO SHUTDOWN DEMND TEMP CTL ECONOM	30.0
SR	AUTOMATIC OFF HOUR FLOW REDUCTION	22.0
SR	CENT MONITORING REACTOR COOLING WTR SUPY	2650.0
SR/	PROCESS METERING	64.5
	SUBTOTAL FY 1981 MODS (SR)	2966.5
	HEADQUARTERS CONTINGENCY	98.6
		*********
VARLOCS	FY 1981 MODS FOR ENERGY MGMT TOTAL	15780.7

	SUBTOTAL FY 1982 MODS (NV)	40.1
OR/ FMPC	REDUCE LIGHTING FIXTURES	10.4
OR/ FMPC	REPLACE STEAM LINE INSULATION	11.4
OR/ FMPC	REPLACE STEAM TRAPS	26.9
OR/ FMPC	AUTOMATIC STEAM SHUTOFF	2.0
OR/ ORGDP	INSTALL 2-SPEED H&V FAN MOTORS K-731	21.0
OR/ ORGDP	INSTALL HPS LTG K-802,832,862	26.0
OR/ ORGDP	TEMPERATURE SETBACK K-1030 OFFICES	7.5
OR/ ORGDP	INSULATE BLDG ATTICS & WALLS,7 BLDGS	10.0
OR/ ORGDP	INSTALL FLUOR LTG K-27 PROCESS BLDG	115.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 7602 &7603	60.0
OR/ ORNL	AUTOMATIC CONTROL X-10 STEAM TRACE	29.9
OR/ ORNL	HVAC MODIFICATIONS BLDG 5505	94.0
OR/ ORNL	FAN SPEED CONTROL BLDG 1505	48.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2000 & 2024	41.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2001 & 2525	110.0
OR/ ORNL	LIGHTING MODS BLDG 4500N	21.0
OR/ ORNL	HVAC MODS BLDG 7710	67.0
OR/ ORNL	HVAC MODS BLDG 1505 & 1506	47.0
OR/ ORNL	REDUCE OFF HOUR AIR FLOW BLDG 3025M	15.0
OR/ ORAU	ENERGY MANAGEMENT UPGRADING	24.1
OR/ Y-12	UNDERGROUND STEAM LINE BIOLOGY AREA	350.0
OR/ Y-12	AUTOMATIC STEAM TRACING VALVES	30.0
OR/ Y-12	INSULATE VALVES STEAM DISTRIBUTION SYS	72.0
OR/ Y-12	CONDENSATE RETURN BIOLOGY AREA	180.0
OR/ Y-12	HVAC MODS 9201-5N INSPECTION	78.0
OR/ Y-12	HVAC MODS BLDG 9204-4	155.0
OR/ Y-12	HVAC MODS WEST INSP DISPATCH AREA 9201-5	73.0
OR/ Y-12	COOLING TWR & CHILLER MODS 9212/9955	0.4
OR/ Y-12	BIOLOGY COOLING TOWER & CHILLER MODS	14.3
OR/ Y-12	HVAC MODS 9737	76.0
OR/ Y-12	BIOLOGY CENT HVAC SYSTM OPTIMIZ	645.0
OR/ PAD	REPLACE INCAN W/FLUOR LTG IN ACR BSMT	47.6
OR/ PAD	REPLACE CELL FLOOR HI-BAY LTG W/HPS C337	286.7
OR/ PAD	REPLACE CELL FLOOR HI-BAY LTG W/HPS C333	286.8
OR/ PORTS	PHOTO CONTROL OF HI-BAY LTG BLDG X-720	70.0
OR/ PORTS	DOOR DRAFT CURTAINS	40.0
	SUBTOTAL FY 1982 MODS (OR)	3220.0
PETC	HEAT RECOVERY, RM120, BLDG 84	135.3
	SUBTOTAL FY 1982 MODS (PETC)	135.3
RL/	FFTF POWER FACTOR IMPROVEMENTS	305.0
	SUBTOTAL FY 1982 MODS (RL)	305.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	62.0
SAN/ETEC	SCTI H-1 & H-2 COMBUSTION EFFICIENCY IMP	95.0
SAN/LLNL	REPL 1 SPEED VENT MTRS W/MULTI SPD 311	5.0
SAN/LLNL	INSTALL DEADBAND AND TIMECLOCKS-BLDG 227	16.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 241	42.0
SAN/LLNL	CONTROL MODS BLDG 451	90.0
SAN/LLNL	AUTO N W LCW CONDUCT WATER SYSTEM	290.0
	SUBTOTAL FY 1982 MODS (SAN)	600.0
	HEADQUARTERS CONTINGENCY	1.8
		*********
VARLOCS	FY 1982 MODS FOR ENERGY MGMT---TOTAL	14100.0

CH/ FFPL	LAB WING HVAC CORRECTIVE ACTIONS C SITE	15.0
	SUBTOTAL FY 1983 MODS (CH OPS)	1309.0
ID/ INEL	BUILDING ENVELOPE MODIFICATIONS	609.0
	SUBTOTAL FY 1983 MODS (ID)	609.0
NV/ EG&G	TIME CLOCKS AND WEATHERSTRIP(6/83)	29.0
NV/ NTS	WASTE HEAT RECOVERY BLDG CP-45	20.0
NV/ NTS	WASTE HEAT RECOVERY BLDG 300	40.0
NV/ NTS	HVAC CONTROL MODS BLDG 650	13.0
NV/ NTS	HVAC CONTROL MODIFICATIONS BLDG CP-1	90.0
	SUBTOTAL FY 1983 MODS (NV)	192.0
OR/ FMPC	ADD MISNG/REPL DMGD STM LINE INSULATN	47.0
OR/ ORGDP	INSTALL HPS LIGHTING K-1101/K-1201	37.0
OR/ ORNL	TIMERS, THERMOSTATS, VARIOUS BLDGS	100.0
OR/ ORNL	TIME CLOCK THERMOSTATS VARIOUS BLDGS.	76.0
OR/ ORNL	REPLACE STEAM LINES AREA 5000	250.0
OR/ Y-12	DEADBAND THERMOSTATS	6.0
OR/ Y-12	LIGHTING MODIFICATIONS BLDG 9204-3	350.0
OR/ Y-12	CONDENSATE RETURN BLDG 9204-3	41.0
	SUBTOTAL FY 1983 MODS (OR)	907.0
PETC	LIGHTING USAGE REDUCTION BLDG 58	69.0
	SUBTOTAL FY 1983 MODS (PETC)	69.0
RL	STATION SVC FROM EXCESS HOC STM,100N	780.0
RL	STEAM PLANT REPLACEMENT-3000 AREA(8/83)	420.0
	SUBTOTAL FY 1983 MODS (RL)	1200.0
SAN/LLNL	INSTALL ECONOMIZERS & CTL SYS BLDG 174	90.0
SAN/LLNL	RETROFIT A/C SYS W/VAV CTRLS BLDG162	32.5
SAN/LLNL	INSTALL LOCAL CHILLER BLDG 251	40.0
SAN/LLNL	RETRO A/C SYS W/CTLS & ECONOMIZR BLDG 25	56.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 225	99.0
SAN/LLNL	CHILLED WATER RESET BLDG 331	29.0
SAN/LLNL	INSTALL DEADBAND& TIME CLOCKS, BLDG 341	20.0
SAN/LLNL	INST NEW CTLS & A/C SYS DEVICE BLDG 511	40.0
SAN/LLNL	INSTALL CONTROL MODS BLDG 241	25.0
SAN/LLNL	RETRO BLDG A/C CTL & ADD ECON BLDG 194	75.0
SAN/LLNL	RETROFIT A/C CONTROLS BLDG 212	13.0
	SUBTOTAL FY 1983 MODS (LLNL)	519.5
SAN/SLAC	POWER FACTOR MOTOR CONTROLLERS	70.0
SAN/ETEC	AUTOMATED ENERGY MANAGEMENT SYSTEM	540.0
SAN/ETEC	INSULATE HEAVY FAB BLDG	53.0
SAN/ETEC	HPS LIGHTING, HIGH BAY	79.0
SAN/ETEC	RETROFIT INTERIOR LTG & AC	28.0
	SUBTOTAL FY1983 MODS (SAN OPS)	770.0
	HEADQUARTERS CONTINGENCY	25.5
		*********
VARLOCS	FY 1983 MODS FOR ENERGY MGMT---TOTAL	13500.0

ATTACHMENT 2

MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS FY 1984 - FY 1985

APRIL 12, 1984

FY1984

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL/ ITRI	VARIABLE AIR VOLUME CONVERSION 3 BLDGS	100.0
AL/ KC	MODIFY DEHUMIDIFYING SYSTEMS	415.0
AL/ KC	MODIFICATION OF EXHAUST SYSTEMS	300.0
AL/ MOUND	EFFICIENT CONTROLS FOR AHU'S	850.0
AL/ RF	MIXING BAFFLES FOR SUPPLY AIR PLENUMS	52.0
AL/ SNL-A	POWER FACTOR CORRECTIONS	100.0
	SUBTOTAL (AL)	1817.0
CH/ ANL-E	ELECTRICAL PEAK SHAVING - SITEWIDE	72.0
CH/ ANL-E	MOD HVAC CNTRLS REDUCE O.A. 600 AREA	33.0
CH/ ANL-E	REDUCE SITE STEAM DISTRIBUTION PRESSURE	760.0
	SUBTOTAL (ANL-E)	865.0
CH/ BNL	IMPROVE EFFICIENCY OF MAG AMP UNITS	940.0
CH/ BNL	SOLAR FILM ON WINDOWS VARIOUS BLDGS	175.0
CH/ BNL	DESTRATIFY HIGH BAY AREAS, 8 BLDGS	105.0
	SUBTOTAL (BNL)	1220.0
CH/ FERMI	TSTAT CONTROL VALVES FOR FINTUBE CNVCTRS	104.0
CH/ FERMI	SMALLER PUMPS MAIN RING MAGNET COOLING	261.0
CH/ FERMI	WASTE HEAT RECVRY HELIUM COMPRESSORS	402.0
CH/ FERMI	MTL HALIDE LTG CENT HELIUM LIQ BLDG	14.0
CH/ FERMI	HIGH EFFICIENCY MTRS-HELIUM COMPRESSORS	150.0
CH/ PPPL	DAS COMPUTER ROOM FREE COOLING	29.0
CH/ PPPL	DEADBAND THERMOSTATS & CEILING FANS	75.0
CH/ PPPL	RETROFIT OF SMALLER ELECTRIC MOTORS	495.0
CH/ PPPL	EFFICIENT BOILER CHEMICAL FEED TANKS	19.0
CH/ PPPL	VARIABLE FREQUENCY MOTOR DRIVES	510.0
	SUBTOTAL (CH)	1729.0
ID/ INEL	INEL BUILDING ENVELOPE UPGRADE	240.0
ID/ INEL	INEL LIGHTING & HVAC IMPROVEMENTS	310.0
	SUBTOTAL (ID)	550.0
METC	INSTALL CEILING RECIRCULATING FANS	81.0

FY 1985

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /LANL	HVAC SYSTMS RETROFITS, PH 2	635.0
AL /PI	BMS EXPANSION	890.0
AL /LANL	PHYSICS BLDG ENERGY CONSRVATION MODS	35.0
AL /KC	HEAT RECOVERY AT WEST BOILER HOUSE	360.0
	SUBTOTAL AL	1920.0
CH /ANL-E	MODIFY 26S AREA COOLING WATER SYSTM	639.0
CH /BNL	ELECTRICAL MODS FOR COE VARIOUS BLDGS	120.0
CH /BNL	INSULATION OF MASONRY WALLS PH 2	930.0
CH /BNL	CONTROL MODS FOR COE VARIOUS BLDGS	94.0
CH /BNL	IMPROVE EFF OF MAG AMP UNITS PH 2	950.0
CH /BNL	ELECTRIC DEMAND LIMITING	980.0
CH /FERMI	LOW POWER COIL FOR 4D248 MAGNET	255.0
CH /FERMI	REDUCE POWER CONSUMPTION OF LIGHTS	55.0
CH /PPPL	RETROFIT OF ELECTRIC MOTORS PHASE 2	283.0
CH /PPPL	C-SITE GAS CONVERSION	190.0
CH /PPPL	A-SITE GAS CONVERSION	248.0
	SUBTOTAL CH	4744.0
OR /ORNL	REPLACE STEAM LINE INSULATION	100.0
OR /PAD	CORRIDOR LIGHTING	73.0
OR /Y-12	OFF HRS SHUTDOWN/SETBACK 5 BLDGS	125.0
OR /Y-12	REDUCE FUME HOOD & RM EXHAUST, BLDG 9209	861.0
OR /Y-12	EXTEND UMS TO 9204-2E	330.0
OR /Y-12	EXTEND UMS TO 9735-9736,9739,& 9209	257.0
OR /Y-12	EXTEND UMS TO 9201-3	378.0
OR /Y-12	HVAC MODS, RM 247, BLDG 9201-5	125.0
OR /Y-12	BRINE CENTRAL CHILLER SYSTM, UMS	480.0
	SUBTOTAL CH	2729.0
SAN/LBL	POLE CAPS FOR SWITCHNG MAGNETS BEVATRON	155.0
SAN/LBL	POLE CAPS QUADRAPOLE MAGNETS BEVATRON	285.0
SAN/LLNL	RETROFIT A/C SYSTM CONTROLS & ECON B-131	125.0
SAN/LLNL	RETROFIT A/C SYSTM B 363,364,365,& 377	42.0
	SUBTOTAL SAN	607.0

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
AMSE	AMERICAN MUSEUM OF SCIENCE AND ENERGY
ANL	ARGONNE NATIONAL LAB-EAST SITE
BNL	BROOKHAVEN NATIONAL LABORATORY
CH	CHICAGO OPERATIONS OFFICE
EG&G	LAS VEGAS FACILITIES OF NEVADA TEST SITE
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FERMI	FERMI NATIONAL ACCELERATOR LABORATORY
FMPC	FERNALD FEED MATERIALS CENTER
ID	IDAHO OPERATIONS OFFICE AND FACILITIES OTHER THAN INEL
INEL	IDAHO NATIONAL ENGINEERING LABORATORY
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
METC	MORGANTOWN ENERGY TECHNOLOGY CENTER
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PETC	PITTSBURG ENERGY TECHNOLOGY CENTER
PI	PINELLAS PLANT
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LABORATORY
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND HANFORD COMPLEX
SAN	SAN FRANCISCO OPERATIONS OFFICE
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SNL	SANDIA NATIONAL LABORATORY
SR	SAVANNAH RIVER OPERATIONS OFFICE AND SAVANNAH RIVER PLANT
UOFR	UNIVERSITY OF ROCHESTER
UOFND	NOTRE DAME RADIATION LABORATORY
VARLOCS	VARIOUS LOCATIONS
Y-12	Y-12 PLANT

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METC      HEAT RECOVERY SYSTEM BLDG 25                 145.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (METC)       226.0    *                                                           *
                                                                *                                                           *
OR/ AMSE  RETROFIT OF HVAC SYSTEM                       75.0    *                                                           *
OR/ FMFC  REDUCE LIGHTING FIXTURES                     145.0    *                                                           *
OR/ Y 12  LIGHTING MODIFICATIONS BLDGS 9202-2 & 4      265.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (OR)         485.0    *                                                           *
                                                                *                                                           *
PETC      BLDG ENVELOPE UPGRADING BLDGS 58,83,681      470.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (PETC)       470.0    *                                                           *
                                                                *                                                           *
RL        OFF SHIFT VENT SETBACK 324 BLDG 300A         415.0    *                                                           *
RL        OFF SHIFT VENT SETBACK, 325 BLDG 300A        470.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (RL)         885.0    *                                                           *
                                                                *                                                           *
SAN/LBL   BEVALAC R.F. POWER AMPLIFIER                 920.0    *                                                           *
SAN/LBL   ENERGY MONITORING & CTL SYS INCREMENT II     600.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (LBL)       1520.0    *                                                           *
                                                                *                                                           *
SAN/LLNL  INSTALL DEADBAND CONTROL MODS BLDG 223         6.0    *                                                           *
SAN/LLNL  INSTALL HVAC CONTROL MODS BLDG 224            15.0    *                                                           *
SAN/LLNL  INSTALL DEMAND/DEADBAND/TIMECLOCK 343         28.0    *                                                           *
SAN/LLNL  INSTALL DEADBAND CONTROL MODS BLDG 214         7.3    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (LLNL)        56.3    *                                                           *
                                                                *                                                           *
SAN/SLAC  COMPUTER BUILDING ECONOMIZER                  12.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (SAN)         12.0    *                                                           *
                                                                *                                                           *
SR        LIGHTING IMPROVEMENTS 320-M                  105.0    *                                                           *
SR        MODS TO REFRIGERATION SYSTM ADMIN AREA       225.0    *                                                           *
SR        MODIFICATIONS TO POWERHOUSE FANS             600.0    *                                                           *
SR        LIGHTING IMPROVEMENTS 321 M                  105.0    *                                                           *
                                                                *                                                           *
                                 SUBTOTAL (SR)        1035.0    *                                                           *
                                                                *                                                           *
                                                                *                                                           *
                        HEADQUARTERS CONTINGENCY       629.7    *                                                           *
                                                                *                                                           *
                                                   *********    *                                             *********     *
VARLOCS   FY 1984 MODS FOR ENERGY MGMT--TOTALS       11500.0    *     FY1985 TENTATIVE LIST MODS FOR ENERGY MGMT-TOTAL     10000.0    *
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IN-HOUSE ENERGY MANAGEMENT

Modifications for Energy Management Various Locations

QUESTION 13: For the period FY 1981 - FY 1985, by facility what is the actual and estimated distribution of these funds among the DOE-owned facilities?

ANSWER: Attachments 1 and 2 list the actual distribution of funds among DOE-owned facilities under the line item "Modifications for Energy Management at Various Locations" for FY 1981 - FY 1984 and the estimated distribution for FY 1985.

ATTACHMENT I

MODIFIC TIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS FY 1981 - FY1985

17 APRIL 1984

FY 1981

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL /ITRI	EVAPORATIVE COOLING & HUMIDIFICATION MOD	205.0
AL /MOUND	REPLACE STEAM TRAPS	385.0
AL /PI	CHILLED WATER SYSTEM IMPROVEMENTS	355.0
AL /RF	REDUCE STEAM DISTRIBUTION PRESSURE	625.0
AL /SNL-T	AUTOMATIC HVAC SHUTDOWN CONTROLS	165.0
AL /SNL-L	HVAC MODIFICATION AND ECONOMIZER CYCLE	53.0
AL /SNL-L	AUTOMATIC TEMPERATURE AND FLOW SETBACK	115.0
AL /SNL-L	INSTALL CHILLER ECONOMIZERS	32.0
AL /SNL-L	ENERGY MONITORING AND CONTROL SYSTEM	360.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 1	53.0
AL /SNL-A	INSTALL HIGH PRESSURE SODIUM LIGHTING 2	130.0
AL /SNL-A	AUTOMATIC FUME HOOD DAMPERS	190.0
AL /SNL-A	ENERGY MONITORING AND CONTROL SYSTEM	580.0
AL /SNL-A	ECONOMIZER, BUILDING 880	36.0
AL /SNL-A	INSULATE EXTERIOR WALLS, BUILDING 880	138.0
AL /	PROCESS METERING	48.9
	SUBTOTAL FY 1981 MODS (AL)	3470.9
CH /ANL-E	MODIFY CHILLERS & HVAC SYSTEMS, BLDG 202	99.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 212	1500.0
CH /ANL-E	CONVERT HVAC TO VAR AIR VOLUME, BLDG 221	89.0
CH/ ANL-E	CONVERT HVAC CONTROLLED ENV ROOM,BLDG 20	37.0
CH /ANL-E	INSULATE LOADING DOCK SHOP SPACE,BLDG 20	15.0
CH /ANL-W	CUTBACK SITE SUMMER STEAM	110.0
CH /ANL-W	REPLACE TRANSLUCENT SIDING	11.0
CH /BNL	BLENDING SYSTEM ALTERNATIVE LIQUID FUEL	355.0
CH /BNL	MODS TO VARIOUS BLDGS ENVIRON SYSTEMS	290.0
CH /BNL	INSULATE FUEL STORAGE TANK #6110	41.0
CH /BNL	MODS TO AGS SERVICE & OFFICE BLDG 911	210.0
CH /BNL	INSTALL AUTO STACK DAMPERS VARIOUS BLDGS	27.0
CH /BNL	AUTO EQUIP SHUTOFF CHILLER MODS BLDG 463	200.0
CH /BNL	HP SODIUM LTG AGS EXPER. HALL BLDG 912	125.0
CH /FERMI	POND WATER TO COOL ACCELL'R COMPONENTS	99.3
CH /FERMI	CONVERT MESON FRONT END HALL BEAM LNS	[illegible]
CH/ FERMI	POWER FACTOR IMPROVEMENTS PROTON LAB	59.9
CH /FEPL	BOILER RETRO FOR OPERATIONAL EFFICIENCY	67.0
CH /UOFR	HEAT RECOVERY O WING	100.0
CH /UOFR	HEATING SYSTEM MODERNIZATION, O WING	65.0
CH /UOFR	NIGHT SETBACK CONTROLS, O & OO WINGS	40.0
CH /UOFR	STORM WINDOW INSTALLATION, O WING	38.0
CH/ UOFND	SETBACK THERMOSTATS, FREQ CR & COIL LOOP	295.0
	SUBTOTAL FY 1981 MODS (CH)	4541.2
[illegible]	[illegible]	[illegible]

FY 1982

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL /MOUND	EXTEND DDC SYS TO DS COMPUTER RM	20.0
AL /MOUND	RECOVER EXHAUST HEAT, WD BLDG	60.0
AL /KC	VAV CONVERSION, 220R	165.0
AL/ KC	CONDENSER BRUSHES FOR CHILLERS	410.0
AL/ KC	REPLACE FLOURESCENT LIGHTING WITH HPS	595.0
AL/ KC	MODIFY CHILLERS FOR FREE COOLING	220.0
AL/ KC	HEAT RECOVERY FROM CHILLED WATER SYSTEMS	475.0
AL/ LANL	HVAC MODS	950.0
AL/ ITRI	VENTILATION SYSTEMS SETBACK	194.0
AL/ PANTEX	FACILITIES ENERGY CONSERVATION	500.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM 3 BLDGS	193.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 870	266.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 880	305.0
AL/ SANDIA	INSTALL FLUID COOLER SYSTEM BLDG 893	155.0
AL/ SANDIA	CONVERT AREA III STREET LIGHTS TO HPS	30.0
AL /PI	BUILDING & UTILITY MGMT SYSTEM	100.0
	SUBTOTAL FY 1982 MODS (AL)	4598.0
CH/ ANL-E	HVAC MODS, BLDG 206-208	213.0
CH/ ANL-W	MISCELLANEOUS PROJECTS	101.0
CH/ BNL	ENVELOPE MODS BLDGS 129&164	44.0
CH/ BNL	OFF SEASON COOLING WITH UNITARY EQUIPMT	52.0
CH/ BNL	AUTOMATIC BRUSH CLEANING-34 CHILLERS	870.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	990.0
CH/ BNL	MODS TO VARIOUS BLDG SYSTEMS	360.0
CH/ BNL	INSTALL HIGH EFFICIENCY LIGHTING	85.0
CH/ BNL	HVAC IMPROVEMENT FOR CHEMISTRY BLDG	35.0
CH/ BNL	MECH SYSTEM IMPROVEMENTS	545.0
CH/ FERMI	LIGHT SWITCHES & AUTO CONTROLS	215.0
CH/ FERMI	AUTO HOT WATER HEATER&FURNACE DAMPERS	11.6
CH/ FERMI	SHUT OFF BOILERS IN SUMMER MONTHS	41.2
CH/ FERMI	MESON RHO ET AREA BEAM LINES CONVERSION	850.0
CH/ FERMI	NATURAL GAS HEATING SITE 38 COMPLEX	87.0
	SUBTOTAL FY 1982 MODS (CH)	4499.8
ID/ INEL	MODS FOR ENERGY MANAGEMENT	460.0
ID/ INEL	LTG MODS, ECONOMIZER, INSULATION,IFPF	240.0
	SUBTOTAL FY 1982 MODS (ID)	700.0
NV/ NTS	INSTALL TIME CLOCKS BLDG CP-45	10.0
NV/ NTS	INSTALL TIME CLOCKS BLDG 600	3.9
NV/ NTS	[illegible]	[illegible]

FY 1983

MODIFICATIONS FOR ENERGY MANAGEMENT:

SITE	PROJECT TITLE	FUNDED ($K)
AL/ KC	EFFICIENT CONTROLS FOR AHU'S	360.0
AL/ KC	PLANT STEAM CONDENSATE IMPROVEMENTS	330.0
AL/ MOUND	AUTO RESET BLDG THERMOSTATS PHASE 3	450.0
AL/ RF	CONTROL RM COOLING, BLDG 371	105.0
AL/ RF	MODIFY SUPER DRY AIR SYSTEM	46.0
AL/ RF	AUTOMATIC VENTILATION SETBACK	730.0
AL/ RF	MODIFY KATHABARS BLDGS 707 & 707A	125.0
AL/ SNL-A	CONDENSATE RETURN SYSTEM 880	7.0
AL/ SNL-A	MODIFY HVAC BLDG 907	63.0
AL/ SNL-A	EVAP COOLING & HEAT RECOV FOR HT AREA	70.0
AL/ SNL-A	MODIFY HVAC BLDG 904	74.0
AL/ SNL-A	BOILER COMBUSTION AIR	77.0
	SUBTOTAL FY 1983 MODS (AL)	2437.0
CH/ ANL-E	MOB CNTR HVAC CUTBACK RED OA 26S AREA	460.0
CH/ ANL-E	OPT SAT RED OA RECOVER HEAT WG M B-200	155.0
CH/ ANL-E	MOD CNTRL OPTIMIZE HVAC SYST TEMPS B-223	69.0
CH/ ANL-E	REDUCE OUTDOOR AIR IMPRV TEMPCNTRL B-211	55.0
CH/ ANL-E	REPLACE INCANDESCENT W/FLUORESCENT LTNG	630.0
CH/ ANL-E	RED OA & RECOVER HEAT FROM EXHAUST B-306	155.0
CH/ ANL-E	IMPROVE TEMP CNTRL-RED OA B-301,308,335	81.0
CH/ ANL-W	INSTALL ELECTRIC FEEDWATER HEATER	31.0
CH/ ANL-W	BOILER COMBUSTIONS CONTROLLER	51.0
CH/ ANL-W	AIRCOOLED REFRIG CONDNSRS BLDGS 767/768	120.0
CH/ ANL-W	BOILER RETROFITS	84.0
	SUBTOTAL FY 1983 MODS (ANL)	1891.0
CH/ BNL	ENERGY MODS AT MED RESEARCH CTR BLDG 490	950.0
CH/ BNL	BUILDING ENVELOPE, EQUIP & CONTROL MODS	285.0
CH/ BNL	INSTALL SEPARATE CLG TWRS B703,750,801	590.0
CH/ BNL	UPGRADE PIPING & INSUL CENT STM FAC B610	195.0
CH/ BNL	INSULATE MASONRY BLDG WALLS-VAR BLDGS	920.0
CH/ BNL	HVAC & BLDG ENVELOPE MODS	305.0
CH/ BNL	PIPING INSULATION IN STEAM MANHOLES	315.0
	SUBTOTAL FY 1983 MODS (BNL)	3560.0
CH/ FERMI	HVAC REBALANCE CNTRL LAB,GLLRY &BOOSTER	470.0
CH/ FERMI	VARIABLE SPEED PUMPS - LCW PROTON AREA	170.0
CH/ FERMI	VARIABLE SPD PUMPS FOR LCW MESON AREA	115.0
CH/ FERMI	VARIABLE SPD PUMPS--LCW NEUTRINO AREA	170.0
CH/ PPPL	HI BAY AIR DESTRATIFICATION	36.0
CH/ PPPL	NIGHT SETBACK SYSTEMS	43.0
[illegible]	[illegible]	[illegible]

	SUBTOTAL FY 1981 MODS (ID)	814.0
OR /ORGDP	PREHEAT FURNACE COMBUSTION AIR K-1501	71.0
OR /ORNL	CHILLER EFFICIENCY UPGRADING	660.0
OR /ORNL	SEPARATE PROCESS AND HEATING STEAM LNS	130.4
OR /ORNL	UNOCCUPIED HRS AIR SHUTBACK, BLDG 5500	41.9
OR /ORNL	PREHEAT, REHEAT, VENT MODS (FUNDED 2.84)	840.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9995	320.0
OR /Y-12	CHILLER SYSTEM MODS, BLDG 9201-5	200.0
OR /Y-12	VENTILATION REDUCTION, BLDG 9808	77.0
OR /Y-12	DEMAND RESET CONTROLS BLDG 9203	8.8
OR /Y-12	DEMAND RESET, BLDG 9202	76.5
OR/ Y-12	TWO WAY CONTROL & MAKEUP LOUVERS	410.0
OR /PAD	INSTALL AUTO OFF HR HVAC CUTBACK 3 BLDG	21.2
OR /PAD	INSTALL AUTO OFF HOUR H/V CUTBACK C-720	19.6
OR /PAD	INSTALL AUTO OFF HR LTG CUTBACK SW HSE	26.9
OR/	PROCESS METERING (Y-12)	48.0
	SUBTOTAL FY 1981 MODS (OR)	2951.4
PETC	HEAT RECOVERY, BLDG 84	160.0
	SUBTOTAL FY 1981 MODS (PETC)	160.0
RL	BUILDING INSULATION, 200 AREA	2.0
RL	WASTE HEAT RECOVERY (FMIT) FACILITY	590.0
	SUBTOTAL FY 1981 MODS (RL)	592.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	41.0
SAN/ETEC	INSTALL BACKDRAFT DAMPERS ON HVAC INTAKE	12.5
SAN/SLAC	ELECTRONIC HVAC TIMERS	9.5
SAN/	PROCESS METERING (SLAC)	45.5
SAN/	PROCESS METERING (LBL)	30.0
SAN/	PROCESS METERING (LLNL)	45.7
	SUBTOTAL FY 1981 MODS (SAN)	184.2
SR	HVAC SYSTEM MODIFICATIONS	40.0
SR	INSTALL HVAC AUTO DAMPERS, CTL & HPS LTG	126.0
SR	HVAC COOLING COIL BYPASS & DEMAND CONTRO	17.0
SR	HVAC SYSTEM AUTOMATIC SHUTDOWN	17.0
SR	HVAC AUTO SHUTDOWN DEMAND TEMP CTL ECONOM	30.0
SR	AUTOMATIC OFF HOUR FLOW REDUCTION	22.0
SR	CENT MONITORING REACTOR COOLING WTR SUPY	2650.0
SR/	PROCESS METERING	64.5
	SUBTOTAL FY 1981 MODS (SR)	2966.5
	HEADQUARTERS CONTINGENCY	98.6
		*********
VARLOCS	FY 1981 MODS FOR ENERGY MGMT--TOTAL	15780.7

	SUBTOTAL FY 1982 MODS (NV)	40.1
OR/ FMPC	REDUCE LIGHTING FIXTURES	10.4
OR/ FMPC	REPLACE STEAM LINE INSULATION	33.4
OR/ FMPC	REPLACE STEAM TRAPS	26.9
OR/ FMPC	AUTOMATIC STEAM SHUTOFF	2.0
OR/ ORGDP	INSTALL 2-SPEED H&V FAN MOTORS K-731	23.0
OR/ ORGDP	INSTALL HPS LTG K-802,812,862	26.0
OR/ ORGDP	TEMPERATURE SETBACK K-1030 OFFICES	7.5
OR/ ORGDP	INSULATE BLDG ATTICS & WALLS,7 BLDGS	10.0
OR/ ORGDP	INSTALL FLUOR LTG K-27 PROCESS BLDG	115.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 7602 &7603	60.0
OR/ ORNL	AUTOMATIC CONTROL X-10 STEAM TRACE	29.9
OR/ ORNL	HVAC MODIFICATIONS BLDG 5505	94.0
OR/ ORNL	FAN SPEED CONTROL BLDG 1505	48.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2000 & 2024	43.0
OR/ ORNL	HVAC OFF HOUR SHUTDOWN BLDGS 2001 & 2525	110.0
OR/ ORNL	LIGHTING MODS BLDG 4500N	23.0
OR/ ORNL	HVAC MODS BLDG 7710	67.0
OR/ ORNL	HVAC MODS BLDG 1505 & 1506	47.0
OR/ ORNL	REDUCE OFF HOUR AIR FLOW BLDG 3025M	15.0
OR/ ORAU	ENERGY MANAGEMENT UPGRADING	24.1
OR/ Y-12	UNDERGROUND STEAM LINE BIOLOGY AREA	350.0
OR/ Y-12	AUTOMATIC STEAM TRACING VALVES	30.0
OR/ Y-12	INSULATE VALVES STEAM DISTRIBUTION SYS	72.0
OR/ Y-12	CONDENSATE RETURN BIOLOGY AREA	180.0
OR/ Y-12	HVAC MODS 9201-5N INSPECTION	78.0
OR/ Y-12	HVAC MODS BLDG 9204-4	155.0
OR/ Y-12	HVAC MODS WEST INSP DISPATCH AREA 9201-5	23.0
OR/ Y-12	COOLING TWR & CHILLER MODS 9212/9955	0.4
OR/ Y-12	BIOLOGY COOLING TOWER & CHILLER MODS	14.3
OR/ Y-12	HVAC MODS 9737	76.0
OR/ Y-12	BIOLOGY CENT HVAC SYSTM OPTIMIZ	645.0
OR/ PAD	REPLACE INCAN W/FLUOR LTG IN ACR BSMT	47.6
OR/ PAD	REPLACE CELL FLOOR HI-BAY LTG W/HPS C337	286.7
OR/ PAD	REPLACE CELL FLOOR HI BAY LTG W/HPS C333	286.8
OR/ PORTS	PHOTO CONTROL OF HI-BAY LTG BLDG X-720	70.0
OR/ PORTS	DOOR DRAFT CURTAINS	40.0
	SUBTOTAL FY 1982 MODS (OR)	3220.0
PETC	HEAT RECOVERY, RM120, BLDG 84	115.3
	SUBTOTAL FY 1982 MODS (PETC)	115.3
RL/	FFTF POWER FACTOR IMPROVEMENTS	305.0
	SUBTOTAL FY 1982 MODS (RL)	305.0
SAN/ETEC	ETEC ENERGY MANAGEMENT	62.0
SAN/ETEC	SCTI M-1 & M-2 COMBUSTION EFFICIENCY IMP	95.0
SAN/LLNL	REPL 1 SPEED VENT MTRS W/MULTI SPD 271	5.0
SAN/LLNL	INSTALL DEADBAND AND TIMECLOCKS BLDG 227	16.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 243	47.0
SAN/LLNL	CONTROL MODS BLDG 451	90.0
SAN/LLNL	AUTO N W LCW CONDUCT WATER SYSTEM	290.0
	SUBTOTAL FY 1982 MODS (SAN)	600.0
	HEADQUARTERS CONTINGENCY	1.8
		*********
VARLOCS	FY 1982 MODS FOR ENERGY MGMT---TOTAL	14100.0

CH/ [illegible]	[illegible]	[illegible]
	SUBTOTAL FY 1983 MODS (CH OPS)	1307.0
ID/ INEL	BUILDING ENVELOPE MODIFICATIONS	600.0
	SUBTOTAL FY 1983 MODS (ID)	600.0
NV/ EG&G	TIME CLOCKS AND WEATHERSTRIP(6/83)	29.0
NV/ NTS	WASTE HEAT RECOVERY BLDG CP-45	20.0
NV/ NTS	WASTE HEAT RECOVERY BLDG 300	40.0
NV/ NTS	HVAC CONTROL MODS BLDG 650	13.0
NV/ NTS	HVAC CONTROL MODIFICATIONS BLDG CP-1	90.0
	SUBTOTAL FY 1983 MODS (NV)	192.0
OR/ FMPC	ADD MISNG/REPL DMGD STM LINE INSULATN	47.0
OR/ ORGDP	INSTALL HPS LIGHTING K-1101/K-1203	37.0
OR/ ORNL	TIMERS, THERMOSTATS, VARIOUS BLDGS	100.0
OR/ ORNL	TIME CLOCK THERMOSTATS VARIOUS BLDGS.	76.0
OR/ ORNL	REPLACE STEAM LINES AREA 5000	250.0
OR/ Y-12	DEADBAND THERMOSTATS	6.0
OR/ Y-12	LIGHTING MODIFICATIONS BLDG 9204-3	350.0
OR/ Y-12	CONDENSATE RETURN BLDG 9204-3	41.0
	SUBTOTAL FY 1983 MODS (OR)	907.0
PETC	LIGHTING USAGE REDUCTION BLDG 58	69.0
	SUBTOTAL FY 1983 MODS (PETC)	69.0
RL	STATION SVC FROM EXCESS NOC STM,100W	780.0
RL	STEAM PLANT REPLACEMENT 300 AREA (8/83)	420.0
	SUBTOTAL FY 1983 MODS (RL)	1200.0
SAN/LLNL	INSTALL ECONOMIZERS & CTL SYS BLDG 174	90.0
SAN/LLNL	RETROFIT A/C SYS W/VAV CTRLS BLDG162	32.5
SAN/LLNL	INSTALL LOCAL CHILLER BLDG 251	40.0
SAN/LLNL	RETRO A/C SYS W/CTLS & ECONOMIZR BLDG 25	56.0
SAN/LLNL	INSTALL HVAC CONTROL MODS, BLDG 225	99.0
SAN/LLNL	CHILLED WATER RESET BLDG 131	29.0
SAN/LLNL	INSTALL DEADBAND& TIME CLOCKS, BLDG 241	20.0
SAN/LLNL	INST NEW CTLS & A/C SYS DEVICE BLDG 511	41.0
SAN/LLNL	INSTALL CONTROL MODS BLDG 241	25.0
SAN/LLNL	RETRO BLDG A/C CTL & ADD ECON BLDG 194	75.0
SAN/LLNL	RETROFIT A/C CONTROLS BLDG 212	[illegible]
	SUBTOTAL FY 1983 MODS (LLNL)	529.5
SAN/SLAC	POWER FACTOR MOTOR CONTROLLERS	76.0
SAN/ETEC	AUTOMATED ENERGY MANAGEMENT SYSTEM	[illegible]
SAN/ETEC	INSULATE HEAVY FAB BLDG	[illegible]
SAN/ETEC	HPS LIGHTING, HIGH BAY	79.0
SAN/ETEC	RETROFIT INTERIOR LTS & AC	38.0
	SUBTOTAL FY1983 MODS (SAN OPS)	[illegible]
	HEADQUARTERS CONTINGENCY	29.5
		*********
VARLOCS	FY 1983 MODS FOR ENERGY MGMT--TOTAL	[illegible]

ATTACHMENT 2

MODIFICATIONS FOR ENERGY MANAGEMENT, VARIOUS LOCATIONS FY 1984 - FY 1985

APRIL 12, 1984

FY1984

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL/ ITRI	VARIABLE AIR VOLUME CONVERSION 3 BLDGS	100.0
AL/ KC	MODIFY DEHUMIDIFYING SYSTEMS	415.0
AL/ KC	MODIFICATION OF EXHAUST SYSTEMS	300.0
AL/ MOUND	EFFICIENT CONTROLS FOR AHU'S	850.0
AL/ RF	MIXING BAFFLES FOR SUPPLY AIR PLENUMS	52.0
AL/ SNL-A	POWER FACTOR CORRECTIONS	100.0
	SUBTOTAL (AL)	1817.0
CH/ ANL-E	ELECTRICAL PEAK SHAVING - STATEWIDE	72.0
CH/ ANL-E	MOD HVAC CNTRLS REDUCE O.A. 600 AREA	33.0
CH/ ANL-E	REDUCE SITE STEAM DISTRIBUTION PRESSURE	760.0
	SUBTOTAL (ANL-E)	865.0
CH/ BNL	IMPROVE EFFICIENCY OF MAG-AMP UNITS	940.0
CH/ BNL	SOLAR FILM ON WINDOWS VARIOUS BLDGS	175.0
CH/ BNL	DESTRATIFY HIGH BAY AREAS, 8 BLDGS	105.0
	SUBTOTAL (BNL)	1220.0
CH/ FERMI	TSTAT CONTROL VALVES FOR FIXTURE CNVCTRS	104.0
CH/ FERMI	SMALLER PUMPS MAIN RING MAGNET COOLING	261.0
CH/ FERMI	WASTE HEAT RECVRY-HELIUM COMPRESSORS	402.0
CH/ FERMI	MTL HALIDE LTG CENT HELIUM LIQ BLDG	14.0
CH/ FERMI	HIGH EFFICIENCY MTRS-HELIUM COMPRESSORS	150.0
CH/ PPPL	GAS COMPUTER ROOM FREE COOLING	29.0
CH/ PPPL	DEADBAND THERMOSTATS & CEILING FANS	25.0
CH/ PPPL	RETROFIT OF SMALLER ELECTRIC MOTORS	195.0
CH/ PPPL	EFFICIENT BOILER CHEMICAL FEED TANKS	19.0
CH/ PPPL	VARIABLE FREQUENCY MOTOR DRIVES	530.0
	SUBTOTAL (CH)	1729.0
ID/ INEL	INEL BUILDING ENVELOPE UPGRADE	240.0
ID/ INEL	INEL LIGHTING & HVAC IMPROVEMENTS	319.0
	SUBTOTAL (ID)	559.0
METC	INSTALL CEILING RECIRCULATING FANS	81.0

FY 1985

SITE	PROJECT TITLE	FUNDED ($K)
MODIFICATIONS FOR ENERGY MANAGEMENT:		
AL /LANL	HVAC SYSTMS RETROFITS, PH-2	635.0
AL /PI	BMS EXPANSION	890.0
AL /LANL	PHYSICS BLDG ENERGY CONSRVATION MODS	35.0
AL /KC	HEAT RECOVERY AT WEST BOILER HOUSE	360.0
	SUBTOTAL AL	1920.0
CH /ANL-E	MODIFY 26S AREA COOLING WATER SYSTM	639.0
CH /BNL	ELECTRICAL MODS FOR COE VARIOUS BLDGS	120.0
CH /BNL	INSULATION OF MASONRY WALLS PH-2	930.0
CH /BNL	CONTROL MODS FOR COE VARIOUS BLDGS	94.0
CH /BNL	IMPROVE EFF OF MAG-AMP UNITS PH-2	950.0
CH /BNL	ELECTRIC DEMAND LIMITING	980.0
CH /FERMI	LOW POWER COIL FOR 4OD40 MAGNET	255.0
CH /FERMI	REDUCE POWER CONSUMPTION OF LIGHTS	55.0
CH /PPPL	RETROFIT OF ELECTRIC MOTORS PHASE 2	283.0
CH /PPPL	C-SITE GAS CONVERSION	190.0
CH /PPPL	A-SITE GAS CONVERSION	248.0
	SUBTOTAL CH	4744.0
OR /ORNL	REPLACE STEAM LINE INSULATION	100.0
OR /PAD	CORRIDOR LIGHTING	73.0
OR /Y-12	OFF HRS SHUTDOWN/SETBACK 5 BLDGS	125.0
OR /Y-12	REDUCE FUME HOOD & RM EXHAUST, BLDG 9209	861.0
OR /Y-12	EXTEND UPS TO 9208-2E	330.0
OR /Y-12	EXTEND UPS TO 9735-9736,9739,& 9219	257.0
OR /Y-12	EXTEND UPS TO 9201-3	378.0
OR /Y-12	HVAC MODS, RM 247, BLDG 9201-5	125.0
OR /Y-12	BRINE CENTRAL CHILLER SYSTM, UPS	480.0
	SUBTOTAL OR	2729.0
SAN/LBL	POLE CAPS FOR SWITCHNG MAGNETS-BEVATRON	155.0
SAN/LBL	POLE CAPS QUADRAPOLE MAGNETS BEVATRON	285.0
SAN/LLNL	RETROFIT A/C SYSTM CONTROLS & ECON B-131	125.0
SAN/LLNL	RETROFIT A/C SYSTM B 163,164,165,& 177	42.0
	SUBTOTAL SAN	607.0

LEGEND:

AL	ALBUQUERQUE OPERATIONS OFFICE
AMSE	AMERICAN MUSEUM OF SCIENCE AND ENERGY
ANL	ARGONNE NATIONAL LAB EAST SITE
BNL	BROOKHAVEN NATIONAL LABORATORY
CH	CHICAGO OPERATIONS OFFICE
EG&G	LAS VEGAS FACILITIES OF NEVADA TEST SITE
ETEC	ENERGY TECHNOLOGY ENGINEERING CENTER
FERMI	FERMI NATIONAL ACCELERATOR LABORATORY
FMPC	FERNALD FEED MATERIALS CENTER
ID	IDAHO OPERATIONS OFFICE AND FACILITIES OTHER THAN INEL
INEL	IDAHO NATIONAL ENGINEERING LABORATORY
ITRI	INHALATION TOXICOLOGY RESEARCH INSTITUTE
KC	KANSAS CITY PLANT
LANL	LOS ALAMOS NATIONAL LABORATORY
LBL	LAWRENCE BERKLEY LABORATORY
LLNL	LAWRENCE LIVERMORE NATIONAL LABORATORY
METC	MORGANTOWN ENERGY TECHNOLOGY CENTER
MOUND	MOUND LABORATORY
NTS	NEVADA TEST SITE
NV	NEVADA OPERATIONS OFFICE
OR	OAK RIDGE OPERATIONS OFFICE
ORGDP	OAK RIDGE GASEOUS DIFFUSION PLANT
ORNL	OAK RIDGE NATIONAL LABORATORY
PAD	PADUCAH GASEOUS DIFFUSION PLANT
PETC	PITTSBURG ENERGY TECHNOLOGY CENTER
PI	PINELLAS PLANT
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
PPPL	PRINCETON PLASMA PHYSICS LABORATORY
RF	ROCKY FLATS PLANT
RL	RICHLAND OPERATIONS OFFICE AND HANFORD COMPLEX
SAN	SAN FRANCISCO OPERATIONS OFFICE
SLAC	STANFORD LINEAR ACCELERATOR CENTER
SNL	SANDIA NATIONAL LABORATORY
SR	SAVANNAH RIVER OPERATIONS OFFICE AND SAVANNAH RIVER PLANT
UOFR	UNIVERSITY OF ROCHESTER
UOFND	NOTRE DAME RADIATION LABORATORY
VARLOCS	VARIOUS LOCATIONS
Y-12	Y-12 PLANT

```
METC      HEAT RECOVERY SYSTEM BLDG 25                  145.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (METC)     226.0   *                                                  *
                                                                *                                                  *
ORO/ ORSE  RETROFIT OF HVAC SYSTEM                       75.0   *                                                  *
ORO/ FMPC  REDUCE LIGHTING FIXTURES                     145.0   *                                                  *
ORO/ Y-12  LIGHTING MODIFICATIONS BLDGS 9202-2 & 4      265.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (OR)       485.0   *                                                  *
                                                                *                                                  *
PETC      BLDG ENVELOPE UPGRADING BLDGS 58,83,684       470.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (PETC)     470.0   *                                                  *
                                                                *                                                  *
RL        OFF SHIFT VENT SETBACK 324 BLDG 300A          415.0   *                                                  *
RL        OFF SHIFT VENT SETBACK, 325 BLDG 300A         470.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (RL)       885.0   *                                                  *
                                                                *                                                  *
SAN/LBL   BEVALAC R.F. POWER AMPLIFIER                  920.0   *                                                  *
SAN/LBL   ENERGY MONITORING & CTL SYS INCREMENT II      600.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (LBL)     1520.0   *                                                  *
                                                                *                                                  *
SAN/LLNL  INSTALL DEADBAND CONTROL MODS BLDG 223          6.0   *                                                  *
SAN/LLNL  INSTALL HVAC CONTROL MODS BLDG 224             15.0   *                                                  *
SAN/LLNL  INSTALL DEMAND-DEADBAND/TIMECLOCK 341          28.0   *                                                  *
SAN/LLNL  INSTALL DEADBAND CONTROL MODS BLDG 214          7.3   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (LLNL)      56.3   *                                                  *
                                                                *                                                  *
SAN/SLAC  COMPUTER BUILDING ECONOMIZER                   12.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (SAN)       12.0   *                                                  *
                                                                *                                                  *
SR        LIGHTING IMPROVEMENTS 320-M                   185.0   *                                                  *
SR        MODS TO REFRIGERATION SYSTM ADMIN AREA        225.0   *                                                  *
SR        MODIFICATIONS TO POWERHOUSE FANS              670.0   *                                                  *
SR        LIGHTING IMPROVEMENTS 321-M                   105.0   *                                                  *
                                                                *                                                  *
                                    SUBTOTAL (SR)      1015.0   *                                                  *
                                                                *                                                  *
                                                                *                                                  *
                 HEADQUARTERS CONTINGENCY               629.7   *                                                  *
                                                                *                                                  *
                                                    *********   *                                      *********   *
VARIOUS   FY 1984 MODS FOR ENERGY MGMT  TOTALS        11500.0   *   FY1985 TENTATIVE LIST MODS FOR ENERGY MGMT-TOTAL   [illegible]   *
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IN-HOUSE ENERGY MANAGEMENT

Line-Item Projects

QUESTION 14: For the period FY 1981 - FY 1985, please provide a listing of all line-item projects (e.g., Project 82-A-603, High Temperature Water Distribution System, Los Alamos National Laboratory) started, completed, or under construction, as well as their funding levels and total estimated cost.

ANSWER: The attachment lists all line-item projects funded by In-House Energy Management for the period of FY 1981 through FY 1985. Total estimated cost (TEC) is indicated for each line item.

ATTACHMENT

IN HOUSE ENERGY MANAGEMENT PROGRAM LINE ITEM PROJECTS FY 1981 - FY 1985

12 APRIL 1984

```
                    FY 1981
                  ***********
                                              FUNDED
                                               ($K)
     ****************************************** *******

LINE ITEM PROJECTS:

     MODIFICATIONS FOR ENERGY MANAGEMENT,      15787.7
       VARIOUS LOCATIONS (TEC = $15.8 M)

     ALTERNATE ENERGY SOURCE,PANTEX PLANT       1000.0
       (TEC = $46.6 M)

     ENERGY MONITORING AND CONTROL SYSTEM,       567.0
       ARGONNE NATIONAL LAB (TEC = $7.6 M)

     ENERGY MONITORING AND CONTROL SYSTEM,       187.1
       OAK RIDGE NATIONAL LAB (TEC = $4.0 M)

     ENERGY MONITORING & CONTROL SYSTEM,        2500.0
       Y-12 PLANT (TEC = $5.0 M)
     ***********************************       *******
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                    FY 1982
                  **********
                                              FUNDED
                                               ($K)
     ****************************************** *******

LINE ITEM PROJECTS:

     MODIFICATIONS FOR ENERGY MANAGEMENT,      18100.0
       VARIOUS LOCATIONS (TEC = $18.1 M)

     HIGH TEMPERATURE WATER DISTRIBUTION        2100.0
       SYSTEM, LOS ALAMOS NATIONAL LAB
       (TEC = $17.5 M)

     ALTERNATE ENERGY SOURCE,PANTEX PLANT       1000.0
       (TEC = $46.6 M)

     ENERGY MONITORING & CONTROL SYSTEM,        2500.0
       Y-12 PLANT (TEC = $5.0 M)


     ****************************************** ********
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```
                    FY 1983
                  **********
                                              FUNDED
                                               ($K)
     ****************************************** *******

LINE-ITEM PROJECTS:

     MODIFICATIONS FOR ENERGY MANAGEMENT,      17500.0
       VARIOUS LOCATIONS (TEC = $17.5 M)

     HIGH TEMPERATURE WATER DISTRIBUTION        2000.0
       SYSTEM, LOS ALAMOS NATIONAL LAB
       (TEC = $17.5 M)


     ********************************          ********
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                    FY1984
                  **********
                                              FUNDED
                                               ($K)
     ****************************************** *******

LINE ITEM PROJECTS:

     MODIFICATIONS FOR ENERGY MANAGEMENT,      11500.0
       VARIOUS LOCATIONS (TEC = $11.5 M)

     HIGH TEMPERATURE WATER DISTRIBUTION        1700.0
       SYSTEM, LOS ALAMOS NATIONAL LAB
       (TEC = $17.5 M)

     RESIDUAL ENERGY APPLICATIONS,PORTSMOUTH    1772.0
       GASEOUS DIFFUSION PLANT
       (TEC FOR DESIGN = $1.7 M, PROJECT TO BE
       FUNDED BY COMMUNITY)


     ************************************      ********
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                    FY 1985
                  **********
                                              FUNDED
                                               ($K)
     ****************************************** *******

LINE ITEM PROJECTS:

     MODIFICATIONS FOR ENERGY MANAGEMENT,      10000.0
       VARIOUS LOCATIONS (TEC = $10.0 M)

     HIGH TEMPERATURE WATER DISTRIBUTION        4700.0
       SYSTEM, LOS ALAMOS NATIONAL LAB
       (TEC = $17.5 M)

     FUEL STORAGE FACILITY, BROOKHAVEN          1000.0
       NATIONAL LAB (TEC = $2.7 M)

     SCTI COMBUSTION AIR PREHEATERS,            3300.0
       ENERGY TECHNOLOGY ENGINEERING CTR
       (TEC = $2.1 M)

     COGENERATION FACILITY, BROOKHAVEN          2000.0
       NATIONAL LAB (TEC = $20.0 M)
     ************************************     *********
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TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 15: It is our understanding that the Department's internal request for the Technical Information Management Program was $18.6 million, but that the OMB allowance and request to Congress was $15.4 million. What additional activities in the program could be funded if the $18.6 million were appropriated?

ANSWER: The additional activities included at the $18.6 million level provide for:

	$ in 000		
	Operating	Capital	Total
1. Development and use of diverse data bases through computer networking on an interactive, real-time basis, including: o Numeric data base network capabilities; o Bibliographic intelligent gateway for inter-agency resource sharing.	$1,100	$ 400	$1,500
2. Continued development and upgrade of DOE's classified and sensitive information system.	$ 300	$ 100	$ 400
3. Application of advanced technology to technical publication production and distribution system.	$ 550	$ 700	$1,250

The Department is examining the possibility of accomplishing these activities through user charges.

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 16: What is the current FTE level in the Technical Information Management Program?

ANSWER: The current on board personnel staffing level for the TIMP is 210.

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 17: Are Reductions-in-Force (RIF's) being planned for this program in order to lower the FTE level?

ANSWER: At the present time there are no plans for a Reduction-in-Force in this program to lower the FTE level.

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 18: The January 31, 1984 "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for the TIMP totalled $18,600,000, including $16,600,000 for operating expenses and $2,000,000 for plant and capital equipment (PACE). The FY 1985 Congressional request for the TIMP totalled $15,442,000, including $14,632,000 for operating expenses and $800,000 for PACE. What are the specific differences between these two budgets?

ANSWER: The specific difference of $3,158,000 between the Department's FY 1985 submission to OMB and the FY 1985 Congressional request for the Technical Information Management Program is as follows:

	OMB Request	Congressional Request	Difference
DOE R&D information policy and oversight	$ 700,000	$ 700,000	$ 0
Management and control of R&D results	9,400,000	9,000,000	400,000
Access to and dissemination of R&D results	5,600,000	5,242,000	358,000
Development and application of advanced techniques and technologies	2,900,000	500,000	2,400,000
Total	$18,600,000	$15,442,000	$ 3,158,000

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 19: For the period FY 1981 - FY 1985, please provide a detailed breakdown of the program's funding, including operating expenses and plant and capital equipment.

ANSWER: The program funding for the years FY 1981 through FY 1985, including operating expenses and plant and capital equipment is as follows:

	FY 81	FY 82	FY 83	FY 84	FY 85
Technical Information					
Operating	$12,108	$14,142	$14,103	$15,200	$14,642
PCE	800	1,150	1,150	800	800
Total	$12,908	$15,292	$15,253	$16,000	$15,442
RECAP					
By Object Class:					
11. Personal Services	$ 5,700	$ 5,703	$ 5,652	$ 5,525	$ 5,100
12. Personnel Benefits	570	575	684	663	612
21. Travel	67	94	126	140	140
22. Transportation	35	1 M	10	10	10
23. Telecommunications Utilities	340	455	398	550	665
24. Printing	225	278	159	150	150
25. Other Services	4,471	6,259	6,554	7,562	7,365
26. Supplies & Materials	700	768	520	600	600
31. Capital Equipment	800	1,150	1,150	800	800
Total	$12,908	$15,292	$15,253	$16,000	$15,442

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 20: What are the specific DOE-wide policies, procedures, and guidelines relating to scientific and technical information both developed by or purchased using DOE funds?

ANSWER: There are a number of laws, regulations, executive orders, and treaties applicable to DOE's scientific and technical information resources. These are summarized in Table 1. DOE manages its scientific and technical information (STI) resources through a centralized program at the Office of Scientific and Technical Information (OSTI) under the programmatic and administrative jurisdiction of the Directorate of Administration. Its operating management is located at and includes the operation of the Technical Information Center in Oak Ridge, Tennessee. It is funded by the TIMP line item in the DOE budget. OSTI was established to provide the proper level of authority to carry out DOE goals and objectives for the effective management of information both developed by or purchased using DOE funds. The policy and authorities for the STI program are contained in DOE Order 1430.1 entitled "Managing the Department of Energy's Scientific and Technical Information," which was issued on February 23, 1983.

In December 1983, DOE Order 1430.2, entitled "Implementation of the Scientific and Technical Information Management Program," was issued to provide specific guidance to DOE offices and contractors on how STI resources are to be handled within the policies set forth in DOE Order 1430.1.

(2)

DOE Order 1360.4, entitled "Computer Software Sharing" (dated February 2, 1983), provides guidance and procedures relating to the handling of DOE-developed applications software and relates directly to the operation of the National Energy Software Center.

Table 1

DOE's SCIENTIFIC AND TECHNICAL INFORMATION (STI) MANDATES AND RESPONSIBILITIES

Authority	Subject	TIMP Support to Meet DOE Obligations
2 USC 7112(5)	Disseminate energy research results	The collection, processing, and management of all DOE R&D results and the design and implementation of systems and processes to disseminate the results to DOE scientists and engineers and to make them publicly available.
2 USC 7112(8)	Control STI related to nuclear weapons and national security	Develops and administers special control systems to assure this information is received only by authorized recipients.
2 USC 7151(A)	Disseminate STI, provide free interchange of ideas, and enlarge the fund of technical information	Collects the results of all DOE-funded R&D results, as well as worldwide energy R&D, needed by DOE to carry out its missions and make this information available electronically and through announcement publications.
2 USC 9703	Control and make available nuclear safety research and development	Same as 42 USC 7112(5), plus develops and administers special information control systems to assure this information is received only by authorized recipients.
-USC-3710	Transfer DOE research results to private industry and state and local governments	Identify R&D results having transfer potential and design products and marketing strategies to disseminate the results to parties who will expedite implementation.
-USC-2168	Control of sensitive information	Designing systems and processes to control various types of sensitive information.
12333	Foreign intelligence	Acquiring and making accessible worldwide energy R&D results provides the capability for analysis.
12356	Security classification	Receives, controls, announces, and disseminates classified R&D results in accordance with policies promulgated by the Assistant Secretary for Defense Programs.
11490	Emergency preparedness	Organizes, reproduces, and disseminates STI relating to emergency preparedness for energy R&D.
ternational omic Energy ency Agreement	Nuclear Energy	Serves as DOE and U.S. representative in the IAEA international nuclear information system.
E 1430.1 and .2	DOE scientific and technical information program	Establishes and implements scientific and technical information policies and programs for DOE and its contractors.
E 1360.4	DOE-developed computer software	Establishes DOE policy regarding the management and sharing of computer software developed with DOE funds.

TECHNICAL INFORMATION MANAGEMENT PROGRAM (TIMP)

QUESTION 21: The budget justification (*Congressional Budget Request*, FY 1985, Volume 3, p. 356) notes that there are two major on-site contractors at the Technical Information Center and that other services are provided under contract with universities and private sector companies. For the period FY 1981 to present, please provide a listing of these contractors, as well as the funding provided each.

ANSWER: The Office of Scientific and Technical Information contracts for the period FY 1981 to the present are listed below:

OSTI MAJOR CONTRACTORS
($ in 000)

Site	FY 81	FY 82	FY 83	FY 84	FY 85
Argonne National Laboratory, Argonne, Illinois	$ 800	$ 950	$ 600	$ 450	$ 450
Oak Ridge National Laboratory, Oak Ridge, Tennessee	550	800	900	1,038	1,200
Lawrence Berkeley Laboratory, Berkeley, California	365	415	550	530	425
Lawrence Livermore National Laboratory, Livermore, California	50	225	200	250	150
National Bureau of Standards, Washington, D.C.				115	
Science Applications, Inc. Oak Ridge, Tennessee	0	297	554	350	400
Maxima Corporation,* Oak Ridge, Tennessee	832	911	1,333	1,400	1,500
Brock Security, Oak Ridge, Tennessee		40	128	150	150
Tymnet Telecommunications, San Jose, California			50	56	60
Logical Technical Services, New York, New York	60	91	45	90	90
National Academy of Science, Washington, D.C.	12	18	19	19	19

(2)

Engineered Systems, Inc.,* Oak Ridge, Tennessee	30	60	104	117	120
University of Tennessee, Knoxville, Tennessee	60	140	350	390	400
Rust Engineering, Oak Ridge, Tennessee	331	540	217	500	400
D&H Building Services, Oak Ridge, Tennessee	81	148	109	185	190
Energy Information Acquisition					
IFI Plenum, Alexandria, Virginia	246	511	224	443	500
J. M. Thomas & Associates Oak Ridge, Tennessee	10	28		440	500
American Institute of Physics, New York, New York	96	137	148	175	200
University of Tennessee, Knoxville, Tennessee	35	78	92	122	130
University of Tulsa, Tulsa, Oaklahoma		33	13	13	13
Engineering Index, Inc., New York, New York		280			
Environmental Information, Center, Inc., New York, New York	57				
All Other (Maintenance, Software, Misc.)	856	557	918	729	468
Total, Contracted Services	$4,471	$6,259	$6,554	$7,562	7,365

* Major on-site contractor

NATIONAL ENERGY SOFTWARE CENTER

QUESTION 22: What is the National Energy Software Center (NESC)? What does it do and what is its role in the Technical Information Management Program?

ANSWER: NESC is DOE's computer technical software exchange and information center. NESC began in 1960 as the Argonne Code Center with the responsibility of ensuring that the nuclear codes developed with DOE (then AEC) funds were properly shared throughout the agency. Today its mission covers all energy and basic science related applications software. It is operated by Argonne National Laboratory with DOE funding and program direction provided by the Office of Scientific and Technical Information (OSTI).

As the DOE designated processing center for scientific and technical applications software, NESC collects, processes, announces, and distributes code packages (computer program tapes and documentation) and related data sets. The four major activity areas are:

(1) operation of a software information and resource center for acquiring, processing, announcing, and distributing DOE-sponsored computer software and data compilations to DOE facilities;

(2) acquisition for DOE use through the exchange process, announcement, and distribution of energy-related software produced in foreign countries;

(3) assistance to DOE computer facilities in identifying needed non-DOE software; and

(4) management and control of the transfer of DOE-developed software to other government agencies, foreign organizations, and private sector U.S. commerce and industry in compliance with federal laws and regulations.

NATIONAL ENERGY SOFTWARE CENTER

QUESTION 23: For the period FY 1981 - FY 1985, please provide funding and staffing levels of the NESC.

ANSWER: The funding and staffing levels of the NESC for the years FY 1981 through FY 1985 are as follows:

	FY 81	FY 82	FY 83	FY 84	FY 85
TIMP	$800,000	$950,000	$600,000	$550,000	$450,000
Cost Recovery	120,000	120,000	315,000	365,000	375,000
Total	$920,000	$1,070,000	$915,000	$915,000	$825,000
Capital Equipment				$116,000	
Staffing	15	17	16	16	15

PLANT ENGINEERING AND DESIGN

QUESTION 24: For the period FY 1981 - FY 1984, please provide a listing and description of each of the projects funded by PED, as well as the funding level for each.

ANSWER: Projects funded by Plant Engineering and Design from FY 1981 through FY 1984 are as follows:

	FY 1981	FY 1982	FY 1983	FY 1984	Totals
Advanced Centrifuge Test Fac.	$350,000	$	$	$	$ 350,000
Sodium Component Test Fac.	500,000	350,000			850,000
Advanced Isotope Sep. Module	700,000				700,000
Decon. & Decom. of CP-5 Reactor	200,000				200,000
SLAC Linear Collider	750,000	350,000	315,000		1,415,000[1]
Center for Advanced Materials				150,000	150,000
Stanford Synch. Rad. Lab			100,000	350,000	450,000
FMEF-BRET			200,000		200,000
MHD Engineering Test Facility					85,000[2]
Cont. Elec. Beam Accel.				300,000	300,000
Fuel Storage Fac. - BNL				200,000	200,000
Approp. FY Totals:	$2,500,000	$700,000	$700,000	$1,000,000	$4,900,000

A description of each project is attached.

[1] Actual total PE&D for Stanford Linear Collider is $2,272,000, which is comprised of $1,415,000 plus $300,000 in FY 1980, and $557,000 of prior year funding unexpended from other PE&D projects.

[2] $85,000 was used to correct an accounting error in a prior year (FY 1978) project which had resulted in an over expenditure of funds.

ADVANCED CENTRIFUGE TEST FACILITIES

This project will provide for the facilities for the operational and reliability testing of advanced gas centrifuge machines. Maximum use will be made of existing test facilities and essentially all of the new equipment will be located in existing structures. As part of the effort to provide the United States with uranium enrichment technology that is economically attractive, the Government program is developing advanced centrifuges for replacement centrifuges in Gas Centrifuge Enrichment Plant and for any follow-up centrifuge enrichment plants.

SODIUM COMPONENT TEST INSTALLATION (SCTI) ECONOMIZER
(Construction Line Item 78-6-e, Phase C)

This project provides for the addition of an economizer to the Sodium Components Test Installation (SCTI), an existing facility at the Energy Technology Engineering Center, to reduce facility fuel consumption during steam generator testing.

ADVANCED ISOTOPE SEPARATION (AIS) DEVELOPMENT MODULE

The AIS Development Module is a 100,000 square foot building with special separator, laser, process control and data acquisition facilities. It will be used to demonstrate that the selected AIS technology is scalable to near production size equipment and to establish an upper bound on the process economics.

DECOMMISSIONING AND DECONTAMINATION OF THE CP-5 REACTOR

CP-5 is an Argonne National Laboratory research reactor that was constructed in 1951-1953 and was operational from early 1954 until shutdown in September 1979. The proposed Decommissioning and Decontamination Project provides for the removal of all radioactive components, equipment, and structures from the CP-5 reactor facility complex. The goal of the project is to attain an unrestricted use condition of the reactor containment building.

STANFORD LINEAR COLLIDER (SLC)
(Construction line item 84-ER-133)

The SLC is a new type of high energy colliding beam accelerator facility which will be used to achieve electron-positron (antiparticle) collisions at lower energy costs than the technology used to date.

The physical construction consists of an upgrade to the linear accelerator, a transport systems beam housing, experimental hall, target, storage rings and other associated components together with instrumentation and control systems.

CENTER FOR ADVANCED MATERIALS (CAM)
(Construction line item 84-ER-112)

The Center for Advanced Materials is comprised of two research-complexes to be constructed at the Lawrence Berkeley Laboratory; the Surface Science and Catalysis Laboratory (SSCL) and the Advanced Materials Laboratory (AML). This research center is to accelerate basic research in support of U.S. energy-related and high-technology industry by improving the scientific understanding of the underlying chemical and physical phenomena that influence both materials and device behavior.

STANFORD SYNCHROTRON RADIATION LABORATORY ENHANCEMENT
(Construction line item 5-ER-402)

The SSRL Enhancement project will include the construction of new conventional and research facilities and the alteration of an addition to existing facilities for the purpose of providing ultra-high brightness synchrotron radiation from insertion devices (wigglers and undulators).

The project is divided into three portions: (a) construction of two beam lines, one on the SLAC Position Electron Project (PEP) storage ring and one on the SLAC SPEAR for high flux synchrotron radiation research and (c) construction of three conventional facilities: a PEP Beam Line Facility (PBF) (3,500 GSF), a Light Assembly Shop (LAS) (8,600 GSF), and a Laboratory/Office Building.

FMEF - BREEDER REPROCESSING ENGINEERING TEST FACILITY (BRET)

BRET is a processing test system to be installed in the existing FMEF building that will develop the necessary reprocessing technology to close the breeder fuel cycle and develop and demonstrate remotely operable and maintainable breeder reprocessing equipment and systems. This will lead to achieving high reliability, demonstrating safeguards for plutonium, and minimizing technical and economic risks.

MHD ENGINEERING TEST FACILITY

The Engineering Test Facility is a 200 Megawatt (electric) prototype integrated combined cycle coal fired MHD/steam electric power generation system. The prototype system would supply electric power to a commercial grid. It was anticipated that the facility would demonstrate high operational availability and environmental acceptability while measuring performance capabilities and control characteristics of the combined cycle system.

CONTINUOUS ELECTRON BEAM ACCELERATOR FACILITY ($30,000)

(Construction line item 85-R-203)

The Continuous Electron Beam Accelerator Facility (CEBAF) will be the only facility in the world capable of producing electron beams which meet the necessary criteria of energy, duty factor and beam intensity to offer the opportunity to study unexplored transition states of nuclear matter. The project consists of the electron acceleration and construction to house the device and the experimental areas, and improvements to the site and buildings at Newport News, VA., previously occupied by the Space Radiation Effects Laboratory.

FUEL STORAGE FACILITY
(Construction line item 85-A-602)

This In-house Energy Management project provides for the purchase and installation of fuel storage tanks and associated equipment at Brookhaven National Laboratory. It will increase the currently marginal usuable fuel storage supply, allow for purchase of fuels during the off-season when prices are lowest and availability is good, and will provide for an estimated annual dollar savings of $2,000,000.

PLANT ENGINEERING AND DESIGN

QUESTION 25: Why was it decided to terminate PED beginning in FY 1985? What specific changes in policy resulted in this decision?

ANSWER: PE&D is not being terminated. The policy change being implemented provides that this activity will be funded by the appropriate programs beginning in FY 1985.

Management Initiatives

Question 26: On page 18 of your testimony, you stated that in February of this year, instruction and procedures were issued for the control and management of deobligations. Would you please elaborate on these procedures?

Answer: Before February 1, 1984, deobligations of prior year appropriations were automatically made available for re-obligation to the program in which they occurred. Some of these deobligations result from moving funds from one contractor to another and in that regard are a part of the normal business of the Department. However, a portion of these deobligations are in the nature of a windfall, such as a small surplus remaining after contract closeout. The FY 1985 budget proposes to use $34M in FY 1984 and FY 1985 of the "windfall" funds to help finance the FY 1985 program.

To insure that these funds were set aside, a new procedure was put into place on February 1, 1984. The procedures require that the program office provide a narrative justification for reuse of funds recovered through prior year deobligations. If the DOE Budget Office concurs that the requirement cannot or should not be financed with current year funds, the deobligated funds will be reissued through normal procedures. Those funds which are not returned will be accumulated in a reserve account and reported as a deferral.

MANAGEMENT INITIATIVES

QUESTION 27: On page 19 of your testimony, you mentioned two instances which require amending existing law or new statutory language relative to the management initiatives. Are these the only instances in which Congressional action will be required in order to implement the proposed initiatives?

ANSWER: The repeal of the employment floors and approval of the appropriation language recommended by the Department of Energy are the only legislative actions that we are aware are needed to implement the management initiatives.

MANAGEMENT INITIATIVES

Question 28: One of the categories listed by DOE as a source of savings is Printing and Publications. As this initiative is implemented, will the number of DOE publications change? In other words, in addition to making use of commercial sources for producing publications rather than in-house printing plants, are there plans to significantly alter the quantity of publications published by the Department?

Answer: While the Department of Energy will continue to critically review the quantity of publications which we publish, this initiative is limited to improving our use of commercial printing sources where it is cost effective to do so.

OPERATIONS OFFICES

Question 29: Will IG auditors be assigned to the field offices?

Answer: While there are 53 auditors, 14 investigators, and 11 administrative support personnel currently physically located at the field offices, they report to the IG and we plan on continuing to have them report to the IG.

OPERATIONS OFFICES

Question 30:	Would you please explain how the personnel reductions at the Operations Offices will affect contract performance and monitoring evaluations?
Answer:	The FY 1985 budget provides for a net reduction in Operations Office staffing of about 4%. However, over 90% of this reduction is to be accomplished from the implementation of the management initiatives described in the budget, including initiation of actions to improve the effectiveness and efficiency of Departmental management systems and to take advantage of economies available through increased or improved utilization of private sector capabilities. Consequently, we do not forsee any reductions in contract management and contractor evaluation.

POLICY AND MANAGEMENT - ENERGY RESEARCH

QUESTION 1: Please clarify the staffing information for Policy and Management which appeared on pages 12 and 13 of your testimony.

For Energy Research it seems that of the 21 FTE's on-board now - with the fiscal year almost half over - that 13 will be gone by the end of FY 1984, due simply to attrition. Is this correct?

And for Nuclear Energy, 13 FTE's will be gone at the end of FY 1984, also due to attrition?

ANSWER: The Policy and Management staffing reductions are being achieved through attrition and reassignment. The FY 1985 budget request was predicated on a reduction of about 13 employees for both Energy Research and Nuclear Energy for FY 1984 and essentially level employment through FY 1985.

POLICY AND MANAGEMENT - ENERGY RESEARCH

Question 2: The January 31, 1984, "Holifield Tables" indicate that the IRB Fiscal Year 1985 budget request and the Department's submission to OMB for Policy and Management - Energy Research totalled $1,350,000 for operating expenses. The FY 1985 Congressional request for this totalled $530,000. What are the specific differences between these two budgets?

Answer: The FY 1985 IRB and OMB submissions for Policy and Management were $1,350,000 for the salaries and associated costs of 20 FTE's, compared to the Congressional request of $530,000 to support 8 FTE's. The difference of $820,000, therefore, was associated with the additional 12 FTE's.

POLICY AND MANAGEMENT - ENERGY RESEARCH

Question 3: What has been the level of funding for Policy and Management - Energy Research for the period FY 1981 - FY 1985?

Answer:

	FY 1981 Actual*	FY 1982 Actual*	FY 1983 Actual*	FY 1984 Estimate	FY 1985 Estimate
Operating Expenses (BA in Thousands)	$1,071	$1,040	$1,250	$1,288	$ 530
FTE´s	22	21	20	8	8

*In FY 1981 through FY 1983 these amounts were included as part of the Departmental Administration account.

POLICY AND MANAGEMENT - ENERGY RESEARCH

QUESTION 4: Given that the proposed funding for FY 1985 is only about 41% of the FY 1984 level, how can the staffing level remain the same?

ANSWER: The funds appropriated in FY 1984 were at a level which would support up to 20 FTEs. The funds requested in the FY 1985 budget will support 8 FTEs. The staffing level in FY 1984 is decreasing as the year progresses and is expected to be about eight employees at the beginning of FY 1985.

POLICY AND MANAGEMENT - ENERGY RESEARCH

QUESTION 5: What activities will not be carried out in FY 1985 because of the funding reductions?

ANSWER: As I stated in my prepared testimony, essentially the same functions will be performed in FY 1985 as were in FY 1983 and FY 1984. However, consistent with the Administration's management goals, necessary program management activities and administration and support will be performed with greater efficiency. The required program and administrative support activities will be absorbed at reduced levels within the ER programs which they support.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Appropriate Roles and Missions of the Laboratories Vis-a-vis Universities and Industry

Question 1: What is being done to implement the September 1982 ERAB report's recommendations on the appropriate roles and missions of the laboratories vis-a-vis universities and industry?

Answer: As part of the institutional planning process Secretary Hodel issued the Department's policy guidance on the role and missions of the multiprogram laboratories. The Secretary's policy guidance is based on his Congressional statement on the Federal role in energy R&D, and is consistent with the National Energy Policy Plan. The Laboratory Management Council (LMC) developed a general laboratory role statement and reviewed all proposed laboratory mission statements.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Scientific and Technological Capabilities of the Laboratories

Question 2: What is being done to implement the recommendation that the DOE "Urge the Office of Management and Budget to support rolling two-year appropriations by Congress for research and development with carryover funding to stablize the Department and laboratory planning and program execution"?

Answer: The Secretary has supported this recommendation in meetings with laboratory directors, OSTP and Congress.

DOE support was also noted in the Director of Energy Research's December 2, 1982 testimony.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Scientific and Technological Capabilities of the Laboratories

Question 3: What is being done to implement the recommendation that DOE "Designate a high level official, such as a Deputy Undersecretary, whose sole function is to be the Chief Laboratory Executive with authority to help defend the research and development budget; to allocate the resources; to decide where work is being done; and to assess laboratory scientific, technical, and managerial performance."?

Answer: A "Laboratory Management Council" (LMC) has been created to coordinate policy management and overview of the laboratories. The council is comprised of senior executives of the Department who have responsibilities for or significant interests in the laboratories.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Scientific and Technological Capabilities of the Laboratories

Question 4: What is being done to implement the recommendation that "Consistent with the foregoing, modify the roles of the operations offices with respect to the laboratories to focus on management of the contracts with the laboratory operating contractors and to de-emphasize their function as policy and programmatic Intermediaries between Headquarters and the laboratories"?

Answer: The Operations Office role in management of the laboratory contracts has been strengthened by the uniform laboratory appraisal process recently implemented. Policy and programmatic guidance is focused within Headquarters.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Scientific and Technological Capabilities of the Laboratories

Question 5: What is being done to implement the recommendation that DOE "Arrange for the laboratory directors to have substantially more flexibility, within overall budgets and broad program guidelines, to reprogram assigned laboratory resources and to initiate or adapt programs in accordance with research and development opportunities. This reprogramming authority should be no less than 5% or more than 10% subject to satisfactory completion of the original assigned program activity. If additional Congressional authorization for this reprogramming is needed, the Department should seek it."?

Answer: The Congress has eliminated cost ceilings from its appropriation report language. Additional flexibility is supported by the DOE but will depend on Congressional action.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
The Department's Policies and Procedures with Respect to the Laboratories

Question 6: What is being done to implement the recommendation that DOE "Utilize the services of an outside audit contractor familiar with both Government and industry practices to conduct a thorough audit of paperwork requirements in the Headquarters/operations offices/laboratory chain of command."?

Answer: The Assistant Secretary for Management and Administration has, in carrying out certain Management by Objectives initiatives, reported a reduction in Departmental paperwork by more than 30 percent. This includes the elimination of 32 reports, 923 forms, and 96,000 cubic feet of record and nonrecord material. A review of DOE directives by a committee of Deputy Assistant Secretaries identified a number of such documents for elimination or improvement. Thus far this fiscal year, 10 directives have been eliminated and the reporting requirements have been reduced on 20 others.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
The Department's Policies and Procedures with Respect to the Laboratories

Question 7: What is being done to implement the recommendation that "To supplement internal appraisals of laboratory performance, the Department should convene panels from recognized scientific bodies, such as the National Academy of Science and Engineering, to conduct periodic (at intervals not greater than five years) technical audits of laboratory programs in connection with approved institutional plans."?

Answer: To supplement internal appraisals, the Department has established an annual comprehensive appraisal process for the multiprogram laboratories. One of the key areas of review is quality of technical work. This review utilizes input from existing oversight panels such as the University of Chicago panel for Argonne National Laboratory. After some experience with the new appraisal process, the Department will evaluate its effectiveness and determine whether additional panels are required.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
The Department's Policies and Procedures with Respect to the Laboratories

Question 8: What is being done to implement the recommendation that DOE "While maintaining priority status for essential Department missions, allow the laboratories to do more reimbursable work for others (other Federal agencies, state and local governments, and industry) by relaxing constraints on such work."?

Answer: Consistent with the Atomic Energy Act, as amended, work-for-others policy and procedures are aimed at preventing laboratories from competing with industry; and ensuring noninterference of mission work in making unique capabilities of the laboratories available to others. DOE has implemented an R&D Laboratory Technology Transfer Program responsive to the Stevenson-Wydler Act (P. L. 96-480). This program established DOE policy that technology transfer activities, as required by P. L. 96-480, are legitimate functions of the R&D laboratories and will be conducted. As a result, technology transfer activities at the laboratories have increased and the Department, in consultation with the laboratories, has identified barriers to technology transfer and addressed them. A series of "Spotlight on (name of laboratory)" in cooperation with the Industrial Research Institute (IRI) has been initiated to encourage industry access to facilities and to communicate work of potential commercial interest. Industry reaction has been quite favorable so far. To further encourage R&D interactions, DOE has issued a class patent waiver for inventions arising from the reimbursable work-for-others. The response has been an increase in interactions with industry. The laboratories have established a close relationship with the IRI to stimulate interactions. The Secretary has assigned generic roles to the laboratories to provide for and encourage the transfer of technology.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
The Department's Policies and Procedures with Respect to the Laboratories

Question 9: What is being done to implement the recommendations that DOE "Undertake a well-planned education program among Headquarters, operations office, and laboratory staff on the recently liberalized patent policy to ensure that it will be vigorously implemented. In parallel, ensure that the private sector understands the new policy."?

Answer: Detailed documentation of the liberalized DOE patent waiver policy for work-for-others and laboratory users facilities has been circulated to all relevant departmental elements at Headquarters, in the field, and at the laboratories. Outreach to the private sector is an element of the R&D laboratory technology transfer program; the Office of Research and Technology Assessment at each laboratory, as part of its job of facilitating interaction between the laboratory and industry, provides patent policy information. In January 1984, the "User's Guide to DOE Facilities" was completed and given wide distribution in university and industry sectors. The Guide is an important source of information for those interested in cooperative relationships among the national laboratories, the academic community and private industry.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 10: What is being done to implement the recommendation that DOE "Establish a consultant group of all laboratory directors to utilize more effectively laboratory resources in establishing the Department's research and development policy and directions."?

Answer: Regular quarterly meetings are held with the directors of the multiprogram laboratories and the Director of Energy Research and program and administrative officials, Secretarial Offices attend as appropriate. A principal purpose of the meetings is to gain and utilize laboratory advice and resources in all important areas affecting the laboratories, including planning for research and development. In addition, each cognizant Secretarial official conducts an on-site review with the multiprogram laboratory directors as part of the institutional planning process. Numerous meetings are also held at the program level including laboratory input to effective R&D program planning.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting
in Energy Objectives

Question 11: What is being done to implement the recommendation that DOE "Implement vigorously the assignment of lead missions to the laboratories, defining these in terms of major applied programmatic missions, and provide for significantly greater laboratory discretion in allocation of resources (within overall Headquarters established budgets for the mission area) and in the selection of performers."?

Answer: The current Department lead mission concept has evolved into a specialized management tool which is used primarily to assign some significant authority and responsibility for technical program planning and direction to laboratories. Overall program planning and program budget decisions remain with the Headquarters program office. A lead mission assignment cannot permit a laboratory to exercise any of the functions reserved exclusively to Government employees, by law. Lead mission assignments are encouraged for major efforts with a high technical content, involving reasonably stable, long-term assignments. They should be used only when authority and responsibility are not specifically established by contract or by organizational assignments.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 12: What is being done to implement the recommendation that DOE "in setting research priorities, give special weight to making optimal productive use of sophisticated equipment and facilities."?

Answer: Program managers do place special emphasis on the use and scheduling of sophisticated equipment and facilities in the most efficient and effective manner possible. Increased utilization of energy intensive facilities is being sought by reducing power requirements through improvements in efficiency and by requesting sufficient funds for adequate facility operation. DOE continues to seek the best possible rates for power through rate intervention and direct negotiation with utilities, as well as the use of off peak scheduling. In keeping with their overall roles and missions, the multiprogram laboratories not only conduct DOE research programs at these unique facilities but also make them available to members of the scientific and technical community, including both university and industry researchers.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 13: What is being done to implement the recommendation that DOE "Establish user groups reporting to the Department, similar to the High Energy Physics Advisory Panel and the Nuclear Science Advisory Committee, for all of the Department's major mission programs and facilities. These could be established independently for each program function or under the umbrella of an overall advisory group."?

Answer: Several, but not all, programs would benefit from establishing such user groups. In addition to the High Energy Physics Advisory Panel (HEPAP) and the Nuclear Science Advisory Committee (NUSAC), the Department has established the Magnetic Fusion Advisory Committee (MFAC) and the Health and Environmental Research Advisory Committee (HERAC). MFAC has been in existence for over two years and HERAC was established just recently. The oversight panels for the Energy Research multiprogram laboratories have some user representation. Weapons laboratories have similar panels reporting to the University of California.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 14: What is being done to implement the recommendation that DOE "Continue to support laboratory/university cooperation in the training of scientists and engineers through on-site participation by faculty and students in laboratory programs, term appointments, fellowships, etc."?

Answer: The laboratories contribute in the following ways:

1. Ensuring the availability of unique, user-oriented research facilities to university researchers (e.g., numerous facilities for High Energy Physics, and Basic Energy Sciences);
2. Providing research and training opportunities for a large number of undergraduate, graduate, and faculty researchers (e.g., up to 2,000 students per year have been assisted by the national laboratories through the use of laboratory facilities for their research, summer research appointments, etc.);
3. Subcontracting of research to university scientists;
4. Developing direct institution-to-institution links (most recently with a number of historically Black colleges).

. ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 15: What is being done to implement the recommendation that DOE "Permit and encourage joint ventures in selected projects with industry, including test and pilot demonstration (located at the laboratories or on industrial sites) in order to test economic feasibility and to shorten the time lag for technology transfer."?

Answer: Present DOE policy permits joint R&D ventures with industry. The Department is addressing barriers which inhibit such ventures, such as patent rights. As far as pilot demonstrations and testing of economic feasibility is concerned, DOE generally considers these areas to be an industry, rather than a government, responsibility.

. ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 16: What is being done to implement the recommendation that the DOE "In areas of special laboratory expertise and capabilities, allow and encourage the laboratories to work more closely with industry by such means as responding to requests for proposals from industry cooperative groups (e.g., American Society of Heating, Refrigeration, and Air-Conditioning Engineers; Electric Power Research Institute; and Gas Research Institute) and to work in partnership with industry in meeting technical needs of Federal agencies, as well as working directly for industry in connection with Federal agency requests for proposals."?

Answer: DOE laboratories, mainly government-owned and contractor operated, do not compete with the private sector by responding to requests for proposals. However, the laboratories are encouraged to be a useful resource to industry groups and to make users facilities, reasonable consultation, and work-for-others support available.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 17: What is being done to implement the recommendation that DOE "Permit each laboratory to use 1% to 2% of its budget for independent research and development at the discretion of the laboratory director in order to enrich their research capabilities."?

Answer: On December 13, 1983, the Department issued a policy and guidelines for the use of a "reasonable amount of operating funds for early exploration and exploitation of creative and innovative scientific and technological concepts arising in the course of the laboratory's work."

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Effectiveness of the Department's Use of the Laboratories in Meeting its Energy Objectives

Question 18: What is being done to implement the recommendation that "Through a deliberative review and study by both the Department and the laboratories, identify institutional and doctrinal barriers to effective technology transfer and implement further action to ameliorate these."?

Answer: DOE requested and received input from laboratory directors on barriers to technology transfer as a prelude to a Headquarters meeting of senior laboratory personnel in 1983. A report documenting the recommendations of the meeting became the agenda for current Department efforts to improve the technology transfer program.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Alternative Strategies for Making Best Use of the Laboratories in a Constrained Budgetary Environment

Question 19: What is being done to implement the recommendation that the DOE consider "Transferring appropriate DOE-sponsored work now performed by other Federal agencies and directing additional work into the laboratories by assigning to them those new tasks for which new laboratories might otherwise be established."?

Answer: There is relatively little DOE effort performed by other Federal Agencies. Work is given to other agencies when, and only when, the other agency can provide results in a more efficient, cost effective manner. The establishment of new laboratories is not contemplated and is not a current consideration.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Alternative Strategies for Making Best Use of the Laboratories in a Constrained Budgetary Environment

Question 20: What is being done to implement the recommendation that the DOE consider "Narrowing the missions of the laboratories to correspond to the resources available.?"

Answer: The institutional planning process of the Department results in review of laboratory workload consistent with missions and quality of work. Determinations are made during the budget process to increase or decrease laboratory work depending on the availibility of funds, and any overall change in missions or directions made as a result of Administration or Departmental policy. For example, mission redefinitions have resulted in some changes in laboratory size. The Laboratory Management Council, as part of its consideration of the 5-year institutional plans, reviews the proposed size of laboratories based on approved missions.

ERAB MULTIPROGRAM LABORATORY PANEL SEPTEMBER 1982 RECOMMENDATIONS
Alternative Strategies for Making Best Use of the Laboratories in a Constrained Budgetary Enviornment

Question 21: What is being done to implement the recommendation that the DOE consider "Closing particular laboratories or merging one or more of them with other DOE laboratories or even with other appropriate institutions outside the Department."?

Answer: There is no current activity or consideration being directed at the closing or merging of any of the Department's laboratories at this time.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Mission

Question 1: What is being done to implement the recommendation that "As a top management priority, Federal agencies should reexamine the missions of their laboratories. Together with the laboratory directors, the agencies should redefine the missions as necessary to ensure that they are consistent with the appropriate roles for Federal laboratories. The missions must be made sufficiently clear and specific to guide the agency and the laboratories in setting goals against which the laboratories' performance can be evaluated."?

Answer: As part of the institutional planning process for FY 84-89, Secretary Hodel issued the Department's policy guidance for the role and missions of the multiprogram laboratories. The Secretary's policy guidance is based on his Congressional statement for the Federal role in energy R&D, and is consistent with the National Energy Policy Plan. The Laboratory Management Council (LMC) developed a general laboratory role statement; reviewed and revised all proposed laboratory mission statements with special attention to their clarity and specificity. Beginning in 1984, annual laboratory appraisals will be carried out by the cognizant Operations Office to evaluate overall laboratory performance in carrying out their missions.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Mission

Question 2: What is being done to implement the recommendation that "The size of each Federal laboratory should be determined by the missions and the quality of its work. That size should be allowed to increase or decrease (to zero, if necessary) depending on mission requirements, but it should not fluctuate randomly. Preservation of the laboratory is not a mission."?

Answer: The institutional planning process of the Department results in review of laboratory workload consistent with missions and quality of work. Determinations are made during the budget process to increase or decrease laboratory work depending on availability of funds, and any overall change in missions or directions made as a result of Administration or Departmental policy. For example, mission redefinitions have resulted in some changes in laboratory size. The Laboratory Management Council, as part of its consideration of the 5-year institutional plans, reviews the proposed size of laboratories based on approved missions.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Resources: Personnel

Question 3: What is being done to implement the recommendation that "Administrative and legislative action should be initiated now to create, at government-operated, contractor-operated laboratories, a scientific/technical personnel system that is independent of current Civil Service personnel systems. The experimental system for managing scientific and technical personnel at the Naval Weapons Center and Naval Oceans Systems Center is an example of how this can be approached."?

Answer: The White House Science Council Federal Laboratory Review Panel Recommendation 2-1 pertains only to government-operated laboratories. Most of the Department's laboratories are government-owned, contractor-operated (GOCO) and their personnel systems are already independent of Civil Service, and of each other. The Federal Coordinating Council on Science, Engineering and Technology (FCCSET) has a Task Group chaired by the Department of the Navy that is preparing a recommendation regarding personnel systems for the government-operated laboratories.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Resources: Personnel

Question 4: What is being done to implement the recommendation that "Contracts governing government-owned, contractor-operated laboratories should be rewritten to permit the contractor to establish and carry out an independent salary administration."?

Answer: Government-owned, contractor-operated laboratories (GOCO's), under their current contracts with DOE, have the authority--in fact, the obligation--of setting up and administering their own salary and wage policies. DOE reviews and approves individual salary levels only of top laboratory management and senior research officials, and negotiates the overall rate of increase for personnel costs for each laboratory. The levels at which DOE review is required are adjusted periodically to reflect cost of living increases.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Resources: Mission

Question 5: What is being done to implement the recommendation that "Personnel ceilings at government-operated laboratories should not be used in addition to budgetary control. Federal agencies should provide budget constraints and give the laboratory directors freedom to decide how to meet them. Laboratory directors should also be allowed to make the final decisions on contracting for support services at their laboratories."?

Answer: Headquarters works with the management of the DOE government-operated laboratories to establish the appropriate personnel complement within the limits established for the Department by OMB. The management of contractor operated laboratories is responsible for determining personnel complement commensurate with overall available programmatic funding. All laboratory managements may decide on contracting for support services with broad policy guidelines based on the Department's and Federal acquisition regulations.

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MAY 1983 RECOMMENDATIONS
Resources: Funding

Question 6: What is DOE doing to help implement the recommendation that "The Congress and Office of Management and Budget should authorize funding for R&D programs on a predictable multiyear basis so that staffing levels and research activities at Federal laboratories can be properly planned.?"

Answer: The Secretary has supported this recommendation in meetings with laboratory directors, OSTP and Congress. DOE support was also noted in the Director of Energy Research's December 2, 1982 testimony.

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Resources: Funding

Question 7: What is being done to implement the recommendation that "At least 5 percent, and up to 10 percent, of the annual funding of the Federal laboratories should be devoted to programs of independent research and development at the laboratory directors' discretion. Federal agencies should establish a mechanism to evaluate the results of such work, with the size and continuation of discretionary funds related to laboratory performance. In order to encourage cooperative research programs, the laboratory directors should have the authority, and be encouraged, to spend part of the discretionary funds at appropriate universities and industries."?

Answer: On December 13, 1983, the Department issued policy and guidelines for the use of a "reasonable amount of operating funds for early exploration and exploitation of creative and innovative scientific and technological concepts arising in the course of the laboratory's work." Managers of operations offices have the responsibility for monitoring and reporting on the use of such funding. Cooperative work with universities or private industry is not addressed. Encouragement of such cooperative efforts will be separated from the exploratory research and development authorized and encouraged by the new policy. Institutional planning will be the mechanism for evaluating overall results. The Laboratory Management Council will review the funding levels.

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MAY 1983 RECOMMENDATIONS
Resources: Funding

Question 8: What is being done to implement the recommendation that "Federal laboratories should be allowed to carry forward remaining funds into the next fiscal year. This would eliminate the wasteful practice of hurried spending at the end of each fiscal year."?

Answer: Congress appropriates virtually all of the funds spent at DOE laboratories without fiscal year limitation. Consequently, unobligated balances routinely "carry over" into the succeeding fiscal years and remain available to the program. In the past Congressional committees have imposed cost controls; however, beginning with FY 1984 this ceiling limitation has been eliminated. For these reasons, there is no pressure for heavy end-of-year spending to prevent a lapse of funds. However, funds which are unobligated, while they do not lapse, are frequently applied by Congressional Appropriations Committees and OMB to finance part of the following year's program budgets. Therefore, there is a practical reason to obligate funds within the fiscal year to avoid the risk of having these funds picked up and used as budget offsets in the future.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Management

Question 9: What is being done to implement the recommendation that "For each Federal laboratory, there should be an oversight function responsible for assuring the continuing excellence of the laboratory. This function could be performed by an external committee which should include strong industry and university representation. This committee would spend enough time at the laboratory to become familar with the laboratory's strengths and weaknesses. It would focus on productivity and on excellence, relevance, and appropriateness of research. The oversight committee would make recommendations to the agency and inform the laboratory director of these recommendations. Those recommendations would be taken into account by the agency and laboratory in their budget decisions. In addition the committee would give special attention to reducing micromanagement by the sponsoring agency."?

Answer: An oversight panel exists for Argonne National Laboratory (ANL) and Brookhaven National Laboratory (BNL), and is included in the new Oak Ridge National Laboratory (ORNL) contract. Weapons laboratories have similar panels reporting to the University of California. DOE will examine existing external review mechanisms and whether they can be modified to meet the objectives of the recommendations. If not, additional mechanisms utilizing current committees, and possible new external committees, as recommended, will be evaluated.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
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Management

Question 10: What is being done to implement the recommendation that "Federal agencies should rely to a greater extent on the competitive peer review process for funding basic research at their laboratories."?

Answer: Several efforts have been made toward relying to a greater extent on peer review in funding specific Energy Research programs at the laboratories. In addition, a working group of affected program offices has been established to propose written guidance on how best to accomplish competitive peer review of basic research at the laboratories. The Laboratory Management Council will review the proposed actions and recommend policy in this area.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Management

Question 11: What is being done to implement the recommendation that "The laboratory director must be held accountable for the quality, relevance, and productivity of the laboratory. Appointment of the director should be for a finite term, with the option of extending or abbreviating the term depending on the performance of the director and the laboratory."?

Answer: The concept of the management and operating contract (generally for a 5-year term), which DOE uses, has effectively enabled it to obtain the best managed R&D that the university and industry sectors can provide. The contractor chooses the person that can best direct the complex and diverse activities at a DOE-owned facility. The performance of each laboratory is appraised annually in the areas of overall management, program accomplishments, operations support, and administration. Implicit within the appraisal is the performance of the laboratory director. Near the end of the contract period when a determination is made as to whether or not to extend a contract, the performance of the laboratory director and the contractor are evaluated as part of the decision process.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Management

Question 12: What is DOE doing to help implement the recommendation that "The above recommendations apply to all Federal agencies. The management of the Department of Energy presents an additional special problem,-and the Panel recommends that the Administration and Congress work together to stabilize and strengthen DOE management and to define and reaffirm its mission. Congress should also refocus its oversight of DOE R&D into a significantly smaller number of committees."?

Answer: Over the past seven years, DOE has evolved from the Atomic Energy Commission to the Energy Research and Development Administration and into the Department of Energy with concomitant change in the mission and thrust of its R&D efforts. Over the last couple of years, there have been considerable efforts to sharpen the focus of these R&D efforts. Secretary Hodel, in a letter on July 28, 1983, issued the Department's policy guidance on the role and missions of the multiprogram laboratories. In October 1983, the National Energy Policy Plan IV was published and forwarded to Congress. Stabilization of funding in renewable energy, reductions in commercialization efforts, and an increased emphasis on the appraisal of laboratory performance have, along with the foregoing, placed the Department in its best position to date to communicate and affirm its role and mission.

WHITE HOUSE SCIENCE COUNCIL FEDERAL LABORATORY REVIEW PANEL
MAY 1983 RECOMMENDATIONS
Interaction with Universities, Industry, and Users of Research Results

Question 13: What is being done to implement the recommendation that "Federal laboratories should encourage much more access to their facilities by the universities and industry."?

Answer: The implementation of the recommendation and encouragement to improve accessibility to laboratory facilities by university and industry has been included in the Department's Institutional Planning Process and the policy guidance to the laboratories. The "User's Guide to DOE Facilities" was completed in January, 1984, and has been widely distributed to the university and industrial communities. The Guide will serve as an important source of information for those interested in cooperative relationships among the national laboatories, the academic community, and industry.

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Interaction with Universities, Industry, and Users of Research Results

Question 14: What is being done to implement the recommendation that "R&D interactions between Federal laboratories and industry should be greatly increased by more exchange of knowledge and personnel, collaborative projects, and industry funding of laboratory work, provided an oversight mechanism is established to prevent unfair competitive practices."?

Answer: The laboratories continue to be important complementary resources to university based research and education. Over 2000 university faculty members and students particate each year, generally during the summer, in laboratory-sponsored research and training programs. The budget for the DOE University Laboratory Cooperative Program has been significantly increased in FY 1985 to support additional faculty/student research appointments. Significant funding continues for the operation of major user-oriented research facilities at the laboratories; for example, about 40% of the Basic Energy Sciences budget in FY 1985 will support laboratory research facilities which are used by university scientists.

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Interaction with Universities, Industry and Users of Research Results

Question 15: What is being done to implement the recommendation that "Contracting by agencies and laboratories for universities and industry to conduct R&D should be encouraged by simplifying the necessary Federal procurement procedures. The procurement process should give laboratory directors greater flexibility in contracting."?

Answer: Regarding university contracting procedures used by DOE, a working group has been established to recommend ways to simplify these procedures. As part of this process, DOE is converting many university awards from contracts to grants. Also, emphasis has been placed on consistent interpretation of DOE university procurement regulations and procedures by all field elements. The Department will continue to review GOCO laboratory subcontracting activity as appropriate to ensure fairness and equity and general conformance to good practice.

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